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NIGHT OPERATIONS - THE SOVIET APPROACH

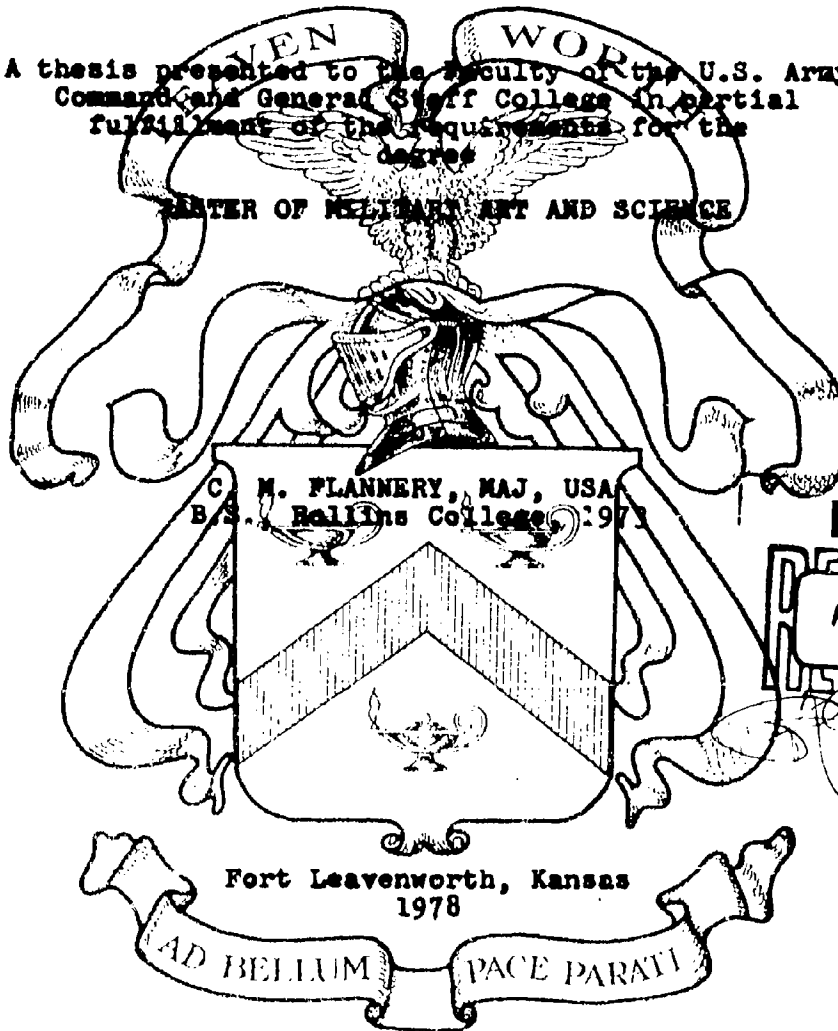
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A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE



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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Night Operations - The Soviet Approach.		5. TYPE OF REPORT & PERIOD COVERED Final Report, 9 June 78
7. AUTHOR(s) Flannery, Corbett M., MAJ, USA		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Student at the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas 66027		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Command and General Staff College ATTN: ATSW-SE		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Corbett M. / Flannery		12. REPORT DATE 9 June 78
		13. NUMBER OF PAGES
		15. SECURITY CLASS. (of this report) Unclassified
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited 11 9 Jun 78 / 12 86 p.		
17. DISTRIBUTION STATEMENT (of the Abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES Master of Military Art and Science (MMAS) Thesis prepared at CGSC in partial fulfillment of the Masters Program requirements, US Army Command and General Staff College, Fort Leavenworth, Kansas 66027		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Night Operations Soviet tactics		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) See reverse		

DD FORM 1 JAN 73 1473

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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↘ This thesis is an examination of Soviet ground force night operations, both from a historical perspective and from current doctrine and training accounts. The objective of this analysis was to determine if the Soviets can be expected to employ night operations in any future conflict, and if so, to what extent.

Historical accounts of Soviet operations during World War II reveal that night operations were an integral part of their offensive and defensive tactics. Current writings by Soviet military officials reveal that the reliance on night operations has not diminished.

Soviet ground forces today possess highly sophisticated night operational equipment, and their training programs reveal an extensive night training effort, perhaps accounting for a full 40% of all individual and unit training.

Conclusions drawn from the analysis of Soviet doctrine and training are that the Soviets can be expected to conduct night offensive and defensive operations using motorized rifle and armor forces supported by artillery and engineer units. The night operation is considered to be a natural extension of the daylight assault and conforms to the Soviet tactics of surprise, shock, and relentless pursuit. ↗

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Night Operations - The Soviet Approach

Corbett M. Flannery, MAJ, USA
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas 66027

Final Report 9 June 1978

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DDC	With Section <input type="checkbox"/>
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the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas
66027

78 08 11 026

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

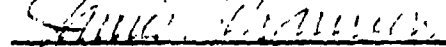
Name of candidate Major Corbett M. Flannery

Title of thesis Night Operations - The Soviet Approach

Approved by:



Research Advisor



Member, Graduate Faculty



Member, Consulting Faculty

Accepted this 12th day of May 1978 by 

Director, Master of Military Art and Science.

The opinions and conclusions expressed herein are those of the individual student author and do not necessarily represent the views of either the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

THESIS ABSTRACT

NIGHT OPERATIONS - THE SOVIET APPROACH, by Major Corbett M. Flannery, USA, 78 pages.

This thesis is an examination of Soviet ground force night operations, both from a historical perspective and from current doctrine and training accounts. The objective of this analysis was to determine if the Soviets can be expected to employ night operations in any future conflict, and if so, to what extent.

Historical accounts of Soviet operations during World War II reveal that night operations were an integral part of their offensive and defensive tactics. Current writings by Soviet military officials reveal that the reliance on night operations has not diminished.

Soviet ground forces today possess highly sophisticated night operational equipment, and their training programs reveal an extensive night training effort, possibly accounting for a full 40% of all individual and unit training.

Conclusions drawn from the analysis of Soviet doctrine and training are that the Soviets can be expected to conduct night offensive and defensive operations using motorized rifle and armor forces supported by artillery and engineer units. The night operation is considered to be a natural extension of the daylight assault and conforms to the Soviet tactics of surprise, shock, and relentless pursuit.

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CHAPTER I

INTRODUCTION

BACKGROUND AND RATIONALE. In July 1976 the United States Army published FM 100-5, Operations. This document expressed in writing a previously understood but substantially undiscussed conclusion: That the forces of the Soviet Union and The Warsaw Pact nations represent the most dangerous potential adversary to the U.S. military. Because of this conclusion, these forces have become the focus for U.S. Army training and tactical doctrine. As the U.S. Army adapts to this situation, the need arises for reference materials which document the Soviet strategy, tactics, weaponry and training procedures.

The subject of this thesis, Night Operations, is one to which the Soviets devote considerable time and effort. The significance of this effort as part of their overall tactical concept is what I propose to examine.

A review of Soviet Military operations during World War II reveals that many of the most significant battles initiated by the Soviets began at night or involved extensive night preparation. Examples include the battles of Stalingrad, Kiev, Shanderovka and Berlin. At present, fully 40% of Soviet tactical exercises are oriented toward night fighting and

preparation for night operations.¹ Several of the Warsaw Pact's training areas are designed for night operations and are used exclusively for that purpose. These factors, coupled with the documented Soviet philosophy of tactical surprise and shock, establish the need for an in-depth analysis of Soviet night tactics.

The paucity of information concerning Soviet night operations is the obstacle to be overcome. Currently only two U.S. military documents deal exclusively with the subject. The first, Department of the Army Pamphlet 20-236, Historical Study, Night Combat, 1953, contains information provided by German generals who served on the Soviet front during World War II. The second document, Defense Intelligence Agency (DIA) publication DDI-1100-128-76, Soviet Ground Forces, Night Operations, March 1976, updates the first and provides information on current Soviet doctrine and training. What is still lacking for the military reader is an analysis of the level of technology associated with present day Soviet night operations, including night vision devices and night operations equipment.

RESEARCH METHODOLOGY AND THESIS CONTENT. While a paucity of information exists in U.S. military documentation, considerable amounts of information regarding Soviet night operations are available from Soviet military and open-source documents. What I propose to do is develop this information

¹DDI-1100-128-76, Soviet Ground Forces Night Operations, Defense Intelligence Agency, 1 March 1976, P. VIII-1.

into a single document. This technique is used extensively by intelligence analysts and should provide both a descriptive and historical product.

First, the thesis will analyze Soviet night operations conducted during World War II. The objective of this historical analysis is to determine under what conditions the Soviets favored night battles and what successes and failures they experienced. Second, it will examine Soviet night operations technology in terms of night vision equipments and weapons and material developed exclusively for night employment. This examination should establish findings regarding the extent of Soviet logistical preparation for night operations. Third, the thesis will analyze Soviet training concepts as they apply to night operations and as they differ from known daylight training concepts. This analysis will include both unit and individual training.

Fourth, I will detail Soviet night operations in terms of their present doctrine regarding night movements, night offensive and defensive operations and the night counterattack. This will involve the discussion of typical Soviet night operations using scenarios based on current doctrine and training. An example of this technique will be the description of a Soviet night river crossing involving a tank unit. Finally, the thesis will present conclusions regarding the extent of Soviet preparation for night operations in terms of equipment and training and statements detailing perceived capabilities and/or intentions for Soviet use of night operations in future conflicts.

RESOURCES. Soviet Military writings are extensive.

In recent years these writings have been translated in sufficient detail to allow the western military reader the opportunity to examine previously untapped resources. Information from these documents will make up the majority of the material presented in this thesis. Such publications as Soviet Military Review and Military Herald provide monthly editions of Soviet military writings. Other sources containing significant amounts of information are the historical documents from World War II and the English language translations of Soviet training manuals. Using such open-source materials, this thesis can remain unclassified and receive wide distribution.

CHAPTER II

SOVIET NIGHT OPERATIONS - THE TRADITION

WORLD WAR II. The Nazi invasion of the Soviet Union in June 1941 began a new era with respect to Soviet military operations. At that time, the Soviet Army still functioned according to field regulations published in 1939. These regulations revealed a military theory which adhered staunchly to Communist ideology. For example, the Soviet leadership viewed the Blitzkrieg as being a bourgeois theory destined for failure.¹ The Soviet theory of war was based on the principles developed during the Civil War of 1921, calling for a rout of any attacker before momentum could be developed. This principle was the first to be abandoned by the Soviets and a more realistic concept of trading space for time was developed in the face of the German Blitzkrieg.

The military and political situation within the Soviet Union which created these strategic theories also was responsible for the organizational and equipment weaknesses of the Soviet Army. The purge of 1937 had stripped the Soviet Army of most of its experienced officers. What remained was an Army with little actual combat experience since the Civil War. The 1940 Winter War against Finland had provided some units with combat experience, however, the Stalin Cult of Personality and the Political Commissar system within the ranks denied these units any opportunity for free military

¹Alexander Werth, Russia At War, P. 143.

thought or tactical flexibility. Although the Soviet Union possessed one of the largest engineering capacities in Europe, the lack of an automobile industry resulted in a lack of wheeled vehicles within the military. This lack of mobility dictated Soviet tactical thinking. For example, in the offensive, the ultimate objective usually was conceived to be no more than a few kilometers beyond the forward line of contact. It was inconceivable for the Soviets to attempt deep penetrations of enemy positions because of their lack of logistical mobility and rapid combat unit advancement.

In terms of equipment, the Soviet Army of 1941 lagged behind the Germans in all weapons except artillery. What armor the Soviets possessed was obsolete. The then new T-34 tank was in the production stage, however, only 1100 were available for combat.² Soviet radar was not tactically deployable and wireless radio was considered to be an undependable backup to their standard means of communications, the telephone. This use of wire communications proved to be both a benefit and a hinderance to the Soviet tactical commanders. The German communications intelligence effort was highly developed by 1941 but was useless against "hard-wired" communications. Conversely, Soviet commanders could command via telephone only as long as the wire remained intact and quite often they found themselves without direct communications with their subordinate units. Coupled with these equipment deficiencies was the poor state of unit and individual training

²Werth, P. 147.

within the Soviet Army. Most unit commanders owed their command positions to their political survivability and possessed little military proficiency.

It was under these conditions that the Soviet Army undertook the defense of the Soviet Union in June 1941. During the first German offensive, which lasted throughout the summer and autumn, the Soviets suffered costly defeats and relinquished not only territory but lost hundreds of thousands of combat troops. Still, these months of defeat served a positive purpose for the Soviet military. Alexander Werth, in Russia At War, describes these first months of war as a school of the greatest value to the officers of the Red Army, since it taught them new techniques and acquainted them with modern warfare requirements.³ It was not until December 1941 that the Soviet Army could launch a sizable counterattack, and it was in this action that the tactics which became the base for Soviet tactics today were displayed. This counter-offensive was launched against the German forces conducting the seige of Moscow. Essentially, the Soviets seized the advantage because of prohibitive weather. Using the poor weather conditions as cover for their actions, they conducted a breakout, pursuing the retreating Germans night and day. The objective of this tactic was to create confusion among the defenders and relentlessly persist in the attack until the enemy had been routed. What the Soviets had accomplished was the incorporation of the German Blitzkrieg tactic with

³Werth, P. 144.

long-established Cossack charges.⁴ The counteroffensive ultimately failed because the Soviets lacked the motorized transports to continue the logistical support for the tactical units in contact. This weakness was to plague the Soviets throughout the campaigns of 1942.⁵

The Soviets had been able to accomplish their first counteroffensive because of revisions in tactical thought and the provision of sufficient quantities of T-34 tanks and Katyusha rockets. The Katyusha proved to be one of the most effective psychological and casualty producing weapons in the entire Soviet campaign. The initial use of this weapon, which at night appeared to be the simultaneous launching of hundreds of flaming projectiles, routed both German defenders and the Soviet troops in proximity to the launchers.⁶ The Soviet desire to keep the weapon a secret, even from their own units, created this initial surprise and fear. As their industrial capacity grew, and more modern weapons were made available, the Soviets continued to adjust their tactics to incorporate mobility and massed forces into their military strategy.

DEVELOPMENT OF NIGHT TACTICS. The development of night operational tactics by the Soviet Army was displayed during the battle of Stalingrad. During the German seige of the city, which lasted from July 1942 until February 1943,

⁴This is the author's analogy.

⁵Werth, P. 259.

⁶Geoffrey Jukes, Stalingrad, The Turning Point, p. 45, and Werth, P. 178-179.

the forces of Marshal Chuikov's 62nd Army displayed some of the tactics which were to be used extensively by the Soviets in later campaigns. Chuikov had correctly assessed that the German air and tank superiority favored their attacking during daylight hours. He, therefore, determined that the Soviet advantage would be at night. Following the initial German attacks during July and August, Chuikov launched his first counterattack on September 13. The attack began before daybreak, preceded by a one-hour artillery and rocket preparation fire. Initially the attack was a success but, after sunrise, the Germans were able to bring airstrikes upon the Soviets and seized the momentum away from Chuikov.⁷ Chuikov did not let this lesson pass him by and immediately began to use the hours of darkness for repositioning and resupply activities. On the evenings of September 14 and 15, Chuikov moved an entire division across the Volga River and into fighting position.⁸

The tactic of night combat was repeatedly employed during the months of October and November 1942. Chuikov's forces developed the tactic of the night offensive, attacking as soon as darkness fell and maintaining extremely close contact with the enemy. This technique created a neutral zone no wider than a grenade throw and took advantage of the German reluctance to fire artillery so close to its front line. At daybreak, the Germans would counterattack and push the Soviets

⁷Werth, P. 422.

⁸Ibid, P. 424.

back but they could not maintain the momentum after darkness. The wearing down of the German force and the tenacious counterattacks at night caused the collapse of the German offensive and led to the eventual Soviet victory at Stalingrad in early February 1943.

From the historical accounts of the defense and eventual counteroffensive at Stalingrad, several night operational tactics emerged. First, the Soviets took advantage of darkness to accomplish resupply. This vital logistical action could not have been carried out during daylight hours because of the German air superiority. Secondly, the Soviets achieved some success by launching night counterattacks while in a daytime defensive posture. In these instances, smaller Soviet forces could engage larger German units in persistent, close contact using darkness as a shield against observation by German artillery. A third tactic which was used successfully by the Soviets was the harassment of German units at night by small bands of Soviet raiders. These harassment techniques not only forced the Germans to remain alert at all times and therefore denied them rest, but hindered the German night resupply efforts. These night tactics were not unique to the Soviet Army, however, they represent the development of a night operational doctrine which the Soviets would use repeatedly in situations where they were outnumbered or where they did not enjoy equipment or weapon superiority.

Most historians consider the Soviet victory over the Germans at Stalingrad to be the turning point in the Eastern

Front during World War II.⁹ The last major German offensive, the Battle of the Kursk Bulge in 1943, was an effort to recover from the material and psychological losses suffered at Stalingrad. This battle, which proved to be a tremendous victory for the Soviets, was the greatest armor battle ever waged.¹⁰ From their highly fortified defensive positions, the Soviets accepted the initial German attack, absorbed it and eventually destroyed the attacker. This battle represented the last time during the war that the Soviet Army occupied a predominately defensive position and marked the beginning of the Soviet offensive which was to continue unabated through 1944 and 1945.

It was during this multi-faceted offensive that the Soviets developed and initiated much of their night offensive tactics. Perhaps the most representative of these tactics was the battle for the liberation of Kiev and Shanderovka. Both of these battles took place in the Ukrainian Offensive. Under the command of Marshal Konev, the 2nd Ukrainian Front reached the eastern bank of the Dnieper River in late 1943. On the opposite bank the Germans had supposedly constructed their formidable "Ostwall", a system of fortifications along the entire length of the Dnieper.¹¹ Beyond these fortifications lay the city of Kiev.

⁹ FM 30-40, Handbook On Soviet Ground Forces, Headquarters, Department of the Army, 30 June 1975, P. 2-7.

¹⁰ Ibid, P. 2-9

¹¹ Werth, P. 704.

Konev ordered his troops to cross the Dnieper under the cover of darkness and to establish bridgeheads on the opposite side. During one night, approximately seven thousand Soviet troops crossed the river using small craft, improvised rafts, boards and bench seats. These troops succeeded in establishing eighteen bridgeheads.¹² With air cover provided by now available Soviet fighter aircraft, Konev was able to sustain eleven of these bridgeheads and erect pontoon bridges. During the night river crossing, 60 Soviet tanks had been sealed with putty and driven under water across the Dnieper to support the infantry.¹³ This night river crossing, coupled with two night airborne drops, permitted the Soviets to establish an offensive position on the western bank of the Dnieper and attain the surprise necessary to make the subsequent attack a success. The night river crossing had been extensively planned by the Soviets, down to the use of individual fording items. The resultant campaign saw the defeat of the Germans in the Ukraine.

The defeat of the German defenders at Shanderovka was accomplished using another night tactic. Having encircled the German forces and creating a defensive pocket, Konev had succeeded in creating a situation similar to Chuikov's victory at Stalingrad. The German defenders in this case had abandoned all hope for outside relief from the Soviet pincher and were planning an action to attempt a breakout. Konev was

¹²Werth, Russia At War, pp. 702-708.

¹³Ibid.

aware of the German situation and pressed the Soviet Air Force for bomber support for night strikes against the German positions. His objective was to deny the Germans a much needed rest and an opportunity to organize their forces for the breakout attempt. On the night of February 16, 1944, Konev called for small observation aircraft to fly over the German positions and illuminate the targets.¹⁴ Although a blizzard was raging and the Air Force initially balked at Konev's request for bomber missions at night, the strikes were carried out. The Germans were taken totally by surprise and could not react to the slow, low-flying U-2 reconnaissance planes¹⁵ that flew the length of their positions dropping incendiaries. The bombers followed with extremely accurate bombing of the highly illuminated targets. This surprise night attack created hysteria and total disorientation among the Germans and they were easily routed and defeated.¹⁶

Although the battle of Shanderovka was not significant in terms of the size of the force defeated, it provided the Soviets with a tactic which was to be employed repeatedly during the offensive campaign which preceeded the final assault on Berlin. This tactic was the use of night

¹⁴Werth, P. 710.

¹⁵A wooden bi-plane, first built by V.N. Chioni in 1924, it was used as a pilot trainer and reconnaissance aircraft throughout WWII. Civilian designation after WWII was CSS-13. Source: Aviation in the Land of the Soviets, J. Babiejezuk and J. Arzregorzewski, translated by Foreign Technology Division, USAF, 23 Sep 1971, P. 42-47.

¹⁶Werth, P. 710.

illumination of a target force, not just for aerial bombing but for the attack by armor, cavalry and infantry units. Marshal Zhukov, the Soviet Union's premier commander during World War II, described this technique in an interview for Komsomolskaya Pravda, detailing the preparation for the attack on Berlin.

We concentrated a huge striking force on the bank of the Oder: the supply of shells alone enough for a million artillery rounds on the first day of the storming. To stun the German defenses immediately, it was decided to begin storming at night with the use of powerful searchlights. Finally the famous night of April 16 began. No one could sleep. Three minutes before zero hour we left our dugout and took up places at our observation posts. To my dying day I will remember the land along the Oder, blanketed in April fog. At 5:00 A.M. sharp it all began. The Katyushas struck, over 20,000 guns opened fire, hundreds of bomber planes roared overhead...and after 30 minutes of fierce bombing and shelling, 140 anti-aircraft searchlights employed every 650 feet in a line, were turned on. A sea of light swept over the enemy, blinding them, and pointing out in the darkness the objects of attack for our tanks and infantry.¹⁷

Zhukov's description of these initial moments of the Battle of Berlin reveal the purpose for the night tactic of illumination: surprise and psychological impact, both on the enemy and friendly forces.

An analysis of Soviet offensive operations during the final years of World War II reveals that the Soviets saw the importance of night operations and developed and employed night tactics successfully. They made use of the cover of darkness to breach obstacles and cross rivers; they conducted logistical and reconnaissance actions at night in order to

¹⁷Reprints from the Soviet Press, April 30, 1975, pp. 25-34.

facilitate daylight operations; they made use of illumination for target acquisition and for orientation of attacking forces; and they initiated attacks at night to achieve the element of surprise. All of the above tactics, as well as the defensive night tactics displayed at Moscow and Stalingrad, have endured and are part of the Soviet Army doctrine today.¹⁸ These experiences, coupled with the technology developed since World War II, provided the base for the present day Soviet night operations policy, strategy and doctrine.

¹⁸DDI-1100-128-76, P. III-1.

CHAPTER III

TECHNOLOGY AND TRAINING

NIGHT OPERATIONAL EQUIPMENT. The Soviet Army emerged from World War II with a basic tactical principal of exploitation of an enemy through firepower. Heavy emphasis today is placed on nuclear and chemical warfare and alternative means in conventional conflict to achieve surprise, decisive force and deep maneuvers. The Soviets stress surprise with emphasis on denying the enemy time to react. This surprise is achieved by secrecy of planning, camouflage and deception, limiting the time spent in combat preparation, and the execution of decisive and preferably unexpected maneuvers.¹ One of these unexpected maneuvers is the attack during darkness. Once surprise has been achieved, the tactic of relentless pursuit is employed until the enemy is routed and destroyed.

To accomplish these tactical goals, the Soviets have developed ground force weapon systems which are highly mobile, rugged and which operate under all weather and battle conditions. Soviet armor, for example, is less designed for crew comfort as it is for simplistic maintenance procedures and all weather conditions. Motorized infantry vehicles and self-propelled artillery systems are equally mobile and rugged.

¹FM 30-40, Handbook on Soviet Ground Forces, Headquarters, Department of the Army, 30 June 1975, P. 5-1.

All of these weapons and equipments possess night operational devices, substantiating the Soviet emphasis placed on night operational capabilities. It is the technology associated with this equipment which gives the best indication of the Soviets' intentions regarding night combat. It is unlikely that the Soviets would devote considerable research and development efforts into an area they view as being of little tactical importance. Current Soviet night operational equipment reveals an advanced technology and consists of a variety of infrared devices and night vision aids for driving and battlefield surveillance. Likewise, Soviet ground force units are equipped with a variety of illumination and darkness defeating systems.

The APN series of infrared sighting equipment has a range of approximately 150 to 950 meters as is employed on Soviet recoilless guns and antitank and field guns of 57 to 100 mm. Similar night sighting equipment is known to be installed on the T-54, T-55 and T-62 medium tanks.² The PPN series of infrared sighting devices is employed on Soviet light and medium machineguns of 7.63 and 12.7 mm.³ The distances of target observation associated with the APN and PPN series are presented in Figure 1.

Binocular head sets, such as the PVN 57, are used for navigating infantry and artillery vehicles and some over-

²CPT Eugene D. Betit, Soviet Technological Preparation for Night Combat, Military Review, March 1975, P. 91.

³DDI-1100-128-76, Soviet Ground Forces, Night Operations, Defense Intelligence Agency, 1 March 1976, P. III-4.

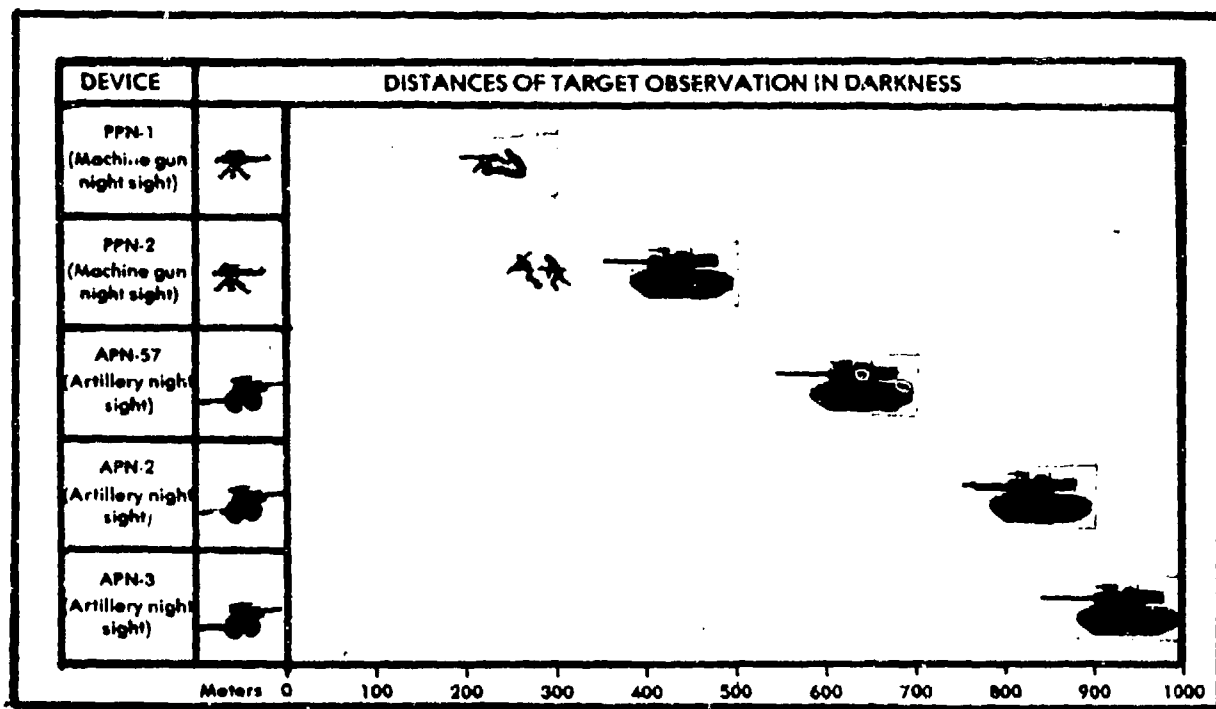


Figure 1 General characteristics of Soviet night vision devices.

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March, 1976.

sized engineer equipments. Passive infrared field glasses are provided to Soviet troops and selected marksmen are armed with the Dragunov (SVD) sniper rifle mounted with an infrared detection device for firing on enemy active infrared systems.⁴

Night navigational equipment in the Soviet inventory is extensive and technically advanced. The three basic configurations of this equipment are the directional gyroscope, coordinate and course indicators and the most sophisticated, a system that plots the vehicle's course on a topographical map. The latter system is available on command vehicles (BTR 50) in motorized rifle and armor units.⁵

Many Soviet combat vehicles, including all medium tanks and scout cars (BRDM), carry either the GPK 48 or GPK 59 gyroscopic compass. These compasses can reflect the vehicle's course (asimuth) within two degrees for periods of up to 1.5 hours before they must be resurveyed. Some Soviet writers indicate that if the equipment is properly surveyed prior to starting, and if the start data is exact, these vehicles may be driven for five hours before resurveying is required. The gyroscope is switched on while the vehicle is motionless and it must remain stationary for at least five minutes while the operator surveys his position. Before movement, the directional angle or magnetic azimuth of the

⁴Betit, P. 91.

⁵Ibid

vehicle's longitudinal axis must be determined and entered into the gyro.⁶ This system is apparently used extensively during night river crossings when snorkeling gear is used and during night marches overland.

The second type of device, the coordinate and course indicator package, is used by artillery units to establish survey data. The system consists of a gyroscopic indicator, control panel, route indicator, coordinate display, two course indicators and a transformer. Average error for this system is no more than 1.3 percent of the course covered, with the gyroscope being accurate to ± 20 feet over a half-hour period.⁷

The navigational system used by commanders, usually in the BTR 50 command vehicle, includes a map plotting console plus course and route indicators. The error of the gyroscope course indicator is, according to Soviet articles, ± 20 feet per hour. The device continuously provides the vehicle's coordinates and the azimuth while plotting the route as it is covered. Map scales of 1:25,000, 1:50,000 and 1:100,000 may be used with the device. Once set in motion, the device is left on as long as the vehicle is moving. The gyrocompass requires four or five minutes to wind down after the equipment is switched off.⁸

Illuminating devices are the other major items of

⁶ Majs. E. Krylov and Sch Balaban, Tank Orientation Using Compass, Military Herald, November 1972, P. 93.

⁷ Betit, P. 93.

⁸ Ibid.

Soviet night operational equipment which are employed during offensive and defensive training and operations. The Soviets possess a wide range of illuminating devices, including illuminating cartridges, rockets, shells, aerial bombs, searchlights, mortars, tracer shells, flare rockets and luminous road signs and markers.⁹ These devices are employed to improve visibility or to blind the enemy and to combat his illumination support equipment.

The Soviet employment of illumination prior to the Battle of Berlin is described in Chapter II. In that example, illumination was used to both blind the enemy and reveal his location to attacking Soviet forces. In such operations, illumination may be periodic or continuous. Usually, continuous illumination is reserved for the main attack, when capturing centers of resistance or assaulting fortified areas. The basic principles in the employment of illumination devices by the Soviets appear to be surprise and massing. Massing is achieved through a consecutive concentration of the bulk of illumination equipment along the main line of advance.¹⁰

The Soviets consider radius, intensity and duration important in determining which particular device to use. Aerial flares producing one million candlepower of illumination, burn three to six minutes and provide a circle of illumination with a diameter of .5 to 4 kilometers, depending on their

⁹DDI-1100-128-76, P. III-3.

¹⁰Ibid, P. III-4.

height from the ground and weather conditions. An artillery star shell illuminates ground for 30 seconds over a circle 500 to 1,500 meters in diameter. Illuminating cartridges with a range of 200 to 350 meters will burn for seven seconds and will illuminate an area of 200 to 240 meters in diameter.¹¹

In addition to the sighting, navigational and illuminating devices discussed here, the Soviets possess surveillance radars and seismic sounding devices which help defeat the conditions of darkness. The complete inventory of Soviet night operational equipment was not discussed here; however, those items discussed provide a representation of the current Soviet technology in the area of night equipment.

It appears that the Soviets have approached the subject of night operational equipment seriously and have devoted considerable research and development efforts to create highly advanced devices, navigational aides and sighting apparatus. Their use of illumination, both historically and in current descriptions of training, indicate a continued reliance on darkness defeating or enhancing devices. Their overall technology with respect to night operational equipment appears to be as good as any in the world.

NIGHT OPERATIONAL TRAINING. Proper training of the individual soldier to the Soviets is the basic requirement for victory in battle. This principle is especially true for night operations. Regardless of the changes in tactics, techniques and equipment, it is the individual soldier who

¹¹DDI-1100-128-76, P. III-4.

must do the actual fighting. The Soviet approach to training the individual for night fighting enhances all other individual combat training and is apparently part of a training system that is carried throughout section, squad, platoon, company and larger unit training.

Night conditions have an especially strong adverse effect on the poorly trained soldier for he is neither physically nor psychologically prepared to meet the conditions of night combat.¹² The Soviets preface almost all of their writings on night training with the statement that night training should be conducted only after the individual soldier has mastered the skills required for daylight combat. These skills include map reading, weapon familiarization, firing techniques and range estimation. After these skills have been demonstrated, the soldier is considered ready for night training. Most individual training of this type is conducted during the basic training phase, however, the continuous enhancement of night combat skills is carried on in unit training.

One of the first training tasks in individual training is orientation to night conditions. The soldier is taught to orient himself at night by learning to select and recognize orientation points which may escape his attention during the daytime. With the recognition of orientation points and his knowledge of map reading, he is able to locate himself in his

¹²DDI-1100-128-76, P. VII-1.

sector of the battlefield.¹³

The individual soldier also receives training in recognizing different sights and sounds and in estimating their range and direction. The following ranges represent the Soviet standards for recognition at night:

Visibility

Source	Distance in Kms
Headlights of motor vehicles and tanks	4 - 8
Muzzle flashes from single cannons	4 - 5
Muzzle flashes from small arms	1.5 - 2
Bonfire	6 - 8
Flashlight	up to 1.5
Lighted match	up to 1.5
Lighted cigarette	up to .8

Audibility

Source	Distance
Cannon shot	up to 15 kms
Single shot from rifle	2 - 4 kms
Automatic weapons fire	3 - 4 kms
Tank movement	
-on a dirt road	up to 1.2 kms
-on a paved road	3 - 4 kms
Motor vehicle movement	
-on a dirt road	up to 500 m
-on a paved road	up to 1 km
Small arms loading	up to 500 m
Metal on metal	up to 300 m
Conversation of a few men	up to 300 m
Steps of a single man	up to 40 m
Axe blow, sound of a saw	up to 500 m
Blows of shovels and pickaxes	up to 1 km
Screams	up to 1.5 kms
Oars on water	up to 2 kms

In the conduct of this training, the individual soldier is taught that directions from which sounds originate cannot always be determined with a high degree of certainty. Weather

¹³DDI-1100-128-76, P. VII-2.

¹⁴Ibid, P. II-1, II-2.

conditions, such as rain, can affect both audibility and visibility and natural noises, such as thunder, can conceal movement.

The Soviet soldier is given a number of training problems which he must solve in total darkness, without the aid of night vision or illumination devices. This training attempts to prepare the soldier psychologically for night combat and develop initiative and resourcefulness. The problems are based as much as possible on actual combat conditions.¹⁵ In addition to psychological and physical training, the Soviet soldier receives a considerable amount of political training to reinforce the other training and to make him reliable and confident.

The final phase of individual night training involves the specialized training associated with the individual's military job. All vehicle drivers, communications specialists, engineers and chemical specialists receive individual night training in those skills before assignment to their units. Once assigned to a particular unit, these skills are enhanced through unit training.

Once the Soviet soldier has completed his basic training and has been assigned to his unit, he begins a more detailed and demanding training schedule. Soviet military writers attest to the emphasis placed by all units on night combat training. The most significant theme throughout this training is the great attention to detail and the preparation

¹⁵DDI-1100-128-76, P. VII-2.

for night training exercises. In motorized rifle units, it is not unusual to have two weeks preparation, during daylight conditions, for a one or two night firing exercise.¹⁶ In an article on night firing training involving a rifle company, Soviet Major N. Melnichuk describes some of the preparation:

Initial skills in handling weapons in the dark (by touch) are acquired by the company personnel during daytime training. Supervised by the sergeants and platoon leaders they learn how to load (unload) their weapons, fill magazines and so on. If a trainee fails to do some action properly the instructor shows the correct way to do the job and then makes the trainee repeat the action till he can do it without a hitch.

In mastering night fire techniques, it is advisable to observe the following procedure: first to fire at illuminated targets (with the terrain lit up all the time or periodically) and then at dark targets (silhouettes projected onto the sky or a fire glow) including firing by gun flash and by shot. This sequence of fire training is based on the principle of setting the trainees gradually complicated missions.¹⁷

Melnichuk continues by describing how the company is taken from one specially constructed firing range to another until all night firing conditions are met. As the troops gain experience firing under night conditions, the training progresses to firing as units, whether it be by squad, section or platoon. Figures 2 through 8 depict how Soviet night firing training sites are constructed and used. At Site One, squad RPK light machinegunners and riflemen armed with AKM assault rifles engage pop-up and moving targets. At Site Two they are taught to sight and to dryfire at stationary targets and to

¹⁶CPT E.D. Betit, Soviet Training for Night Warfare, Military Review, September 1975, P. 80.

¹⁷MAJ N. Melnichuk, Night Fire Training, Soviet Military Review, January 1977, P. 24.

throw grenades at illuminated targets. At Site Three the company personnel are trained in determining distance at night. Usually following Site Three training, the platoon conducts a live firing exercise at ranges of 100 to 500 meters.¹⁸ At Site Four, BTR gunners fire the on-board machineguns at moving and pop-up targets and attempt range determination. At Site Five, grenadiers using the RPG grenade launcher engage moving targets representing armored personnel carriers and tanks.¹⁹

A sixth site is used by company machinegunners using the PK machinegun to fire on pop-up and moving targets. The final firing site is a Control Training Site, used for graded firing using sub-caliber weapons. Here the ranges are greatly reduced, often to 20 meters.²⁰

Night training for Soviet armor units emphasizes both firing techniques and vehicular movement and navigation. In the case of these units as much as two months preparation may be taken prior to a night live-firing exercise. Armor units establish training points similar to those used by rifle units, with orientation on conditions of darkness being gradually intensified until the tank gunners and drivers are familiar with illumination, semi-darkness and total darkness conditions.

Normally, three sites are constructed for this progressive training. At Site One, tank crews conduct gunnery

¹⁸LTC E. Sokolov, From Infantry Weapons at Night, Military Herald, February 1971, P. 93.

¹⁹Betit, P. 81.

²⁰Col. A. Egorov, Night Fire Training, Military Herald, January 1972, PP. 102-104.

practice on rocking frame simulators. Electric lightbulbs are popped to simulate the dazzle from the tank's main gun muzzle flash. At Site Two, individual crew functions are performed and range estimations and azimuth determinations are practiced. At Site Three, tank crews simulate firing on targets displayed at various ranges. Following successful completion of these three phases, the crew conducts a live-fire exercise and is graded, with the grades recorded for future reference.²¹ During live-firings, both night and normal range finding devices are used so that gunners can gain an appreciation for the reduced effective range under night conditions.

Navigational skills are perfected using the navigational aides described earlier in this chapter. All vehicle drivers must prove themselves competent by navigating a course at night and arriving at a pre-designated position within a certain time constraint.

Upon examination of the vast amount of articles on night training written by Soviet military writers, it is apparent that not only do the Soviets consider night combat to be important, but they consider it necessary. Approximately 40% of the unit training conducted by Soviet combat arms units is in preparation for or involved with night operations. This preparation and attention to detail is in keeping with the historical significance placed on night operations, their tactical doctrine of continuous pursuit and their considerable efforts toward developing night operational equipment.

²¹Betit, P. 83.

The Soviets appear to be capable night fighters, perhaps more so than our own forces. Their soldiers are individually prepared both psychologically and physically for night combat and their units are well trained in the night firing, ranging and navigational skills. Although the Soviets have not participated in sustained night operations since World War II, it appears that they are capable of such an undertaking.

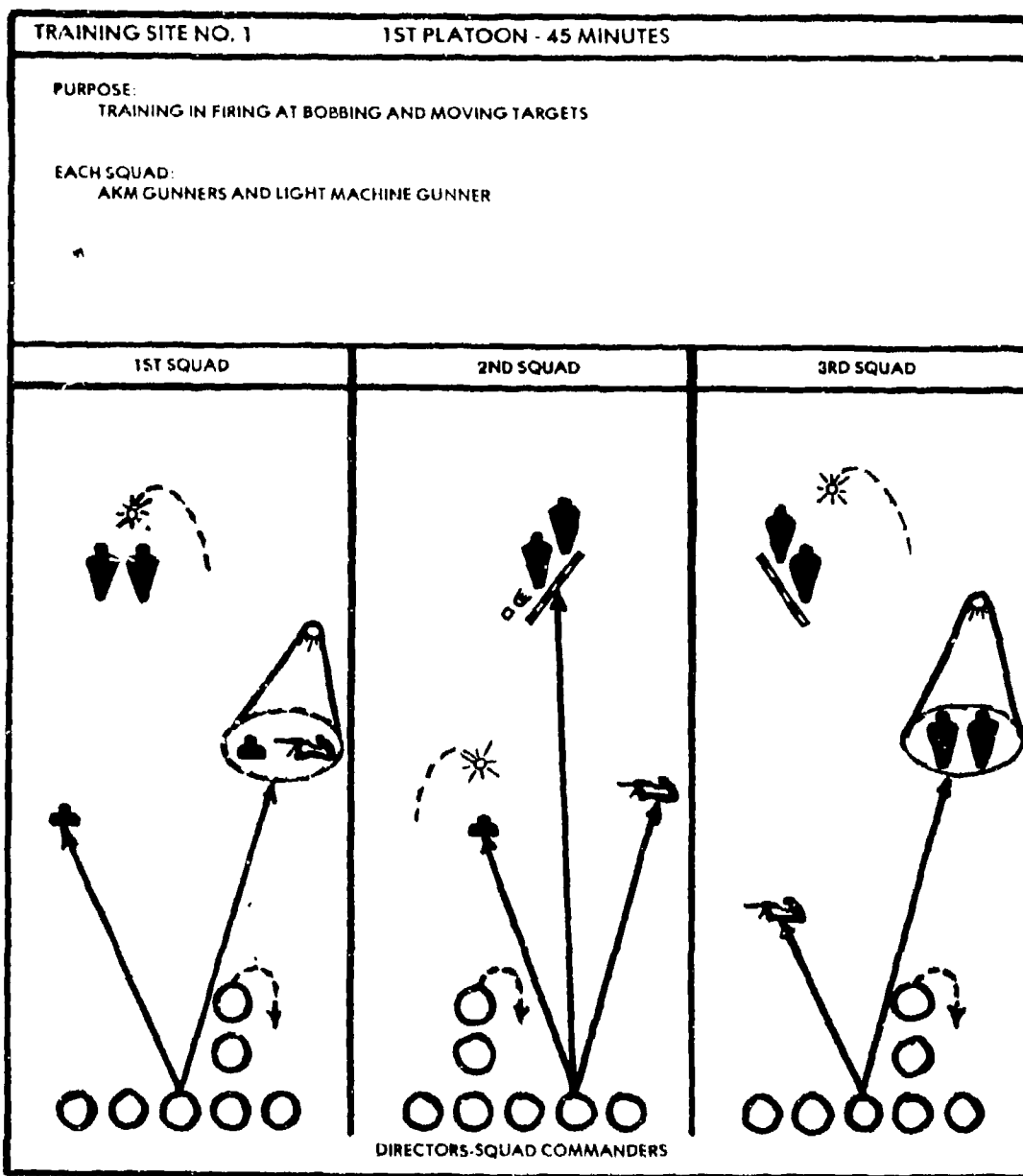


Figure 2 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March 1976.

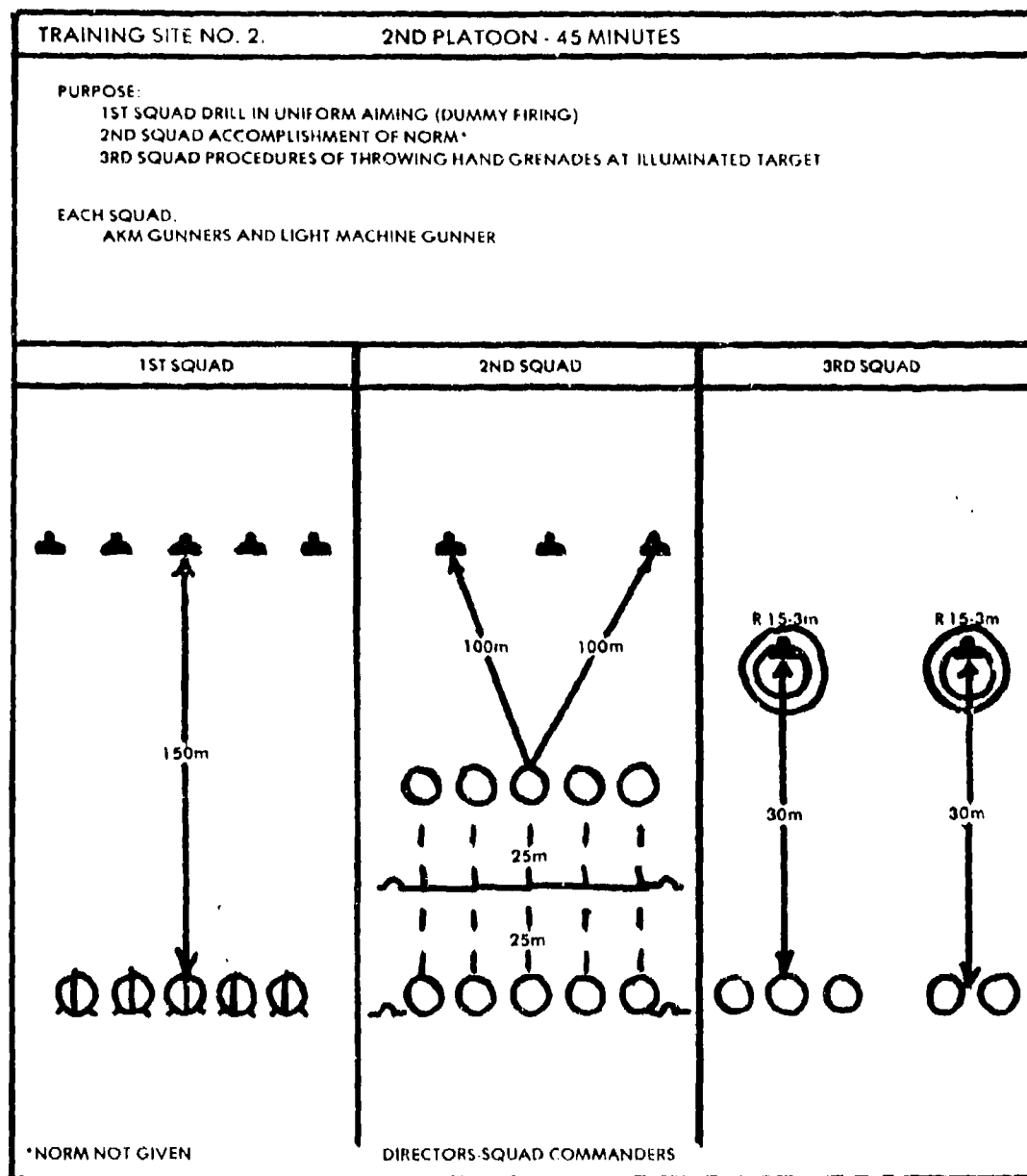


Figure 3 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March 1976.

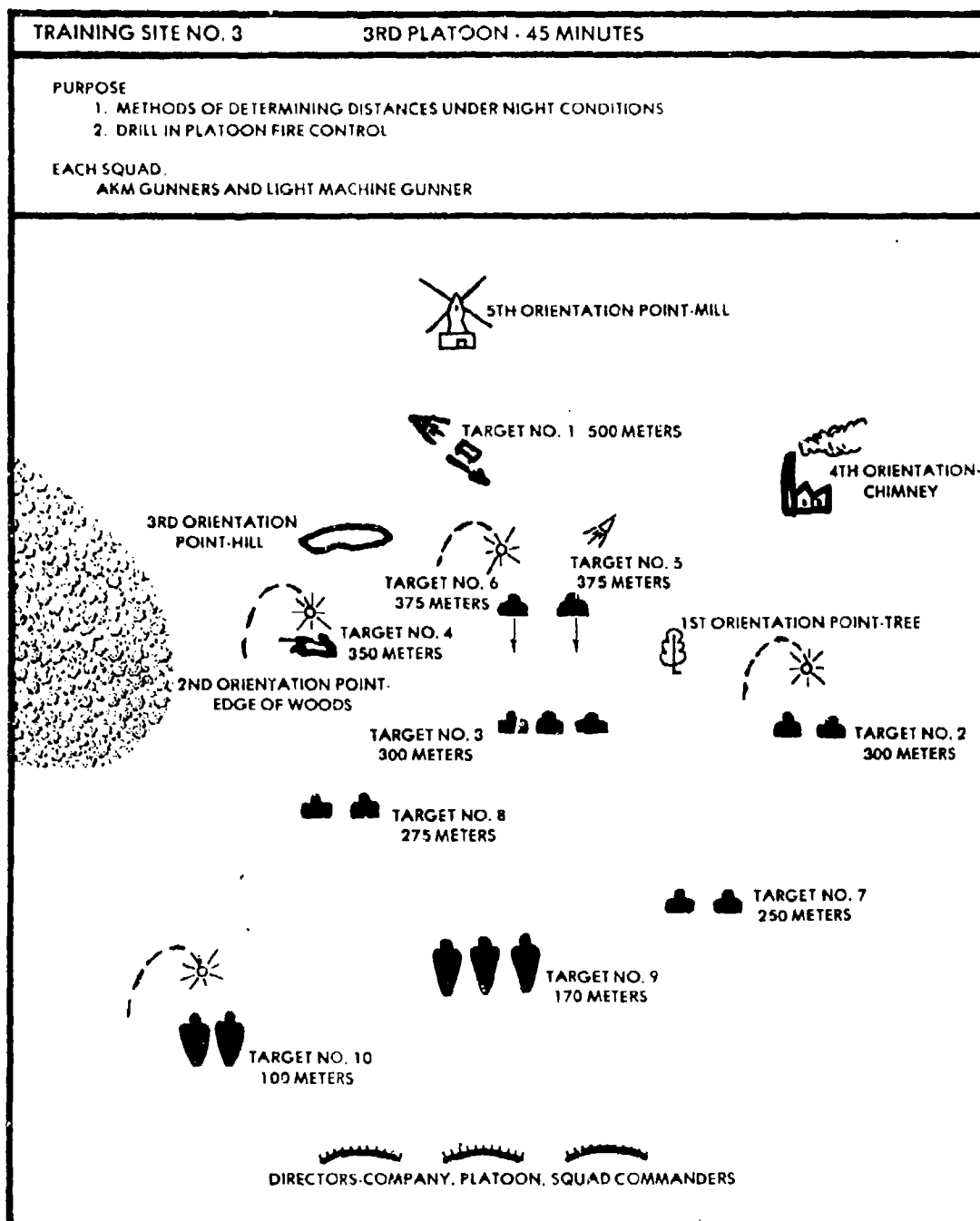


Figure 4 Firing Range

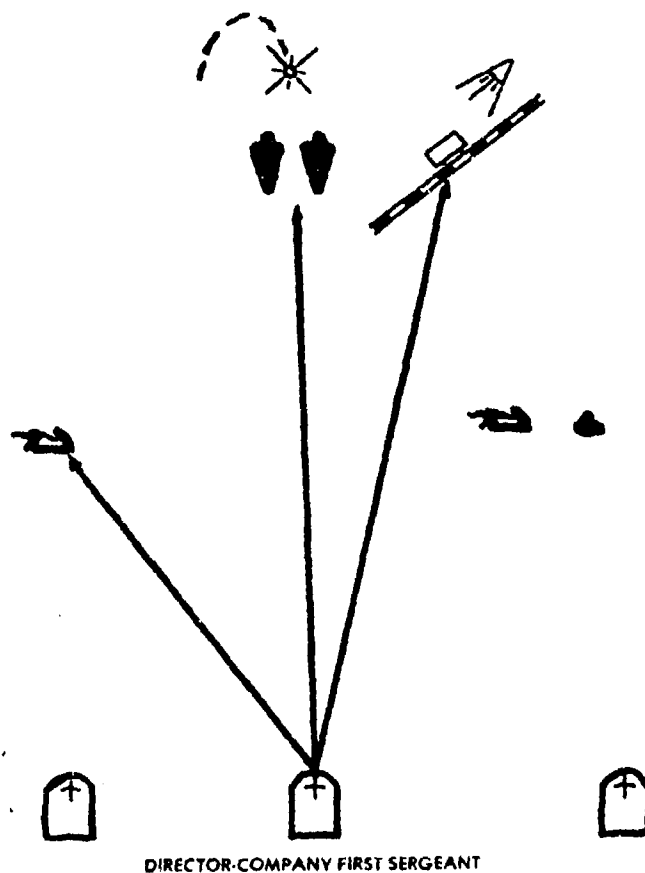
DDI-1100-128-76, Soviet Ground Forces, Night Operations,
 March 1976.

TRAINING SITE NO. 4.

APC GUNNERS - 135 MINUTES (3x45)

PURPOSE:

1. TRAINING FOR FIRING AT BOBBING AND MOVING TARGETS
2. DETERMINATION OF DISTANCES TO VARIOUS TARGETS
3. ACCOMPLISHMENT OF NORMS NO. 4 AND NO. 9*



*NORMS NOT GIVEN

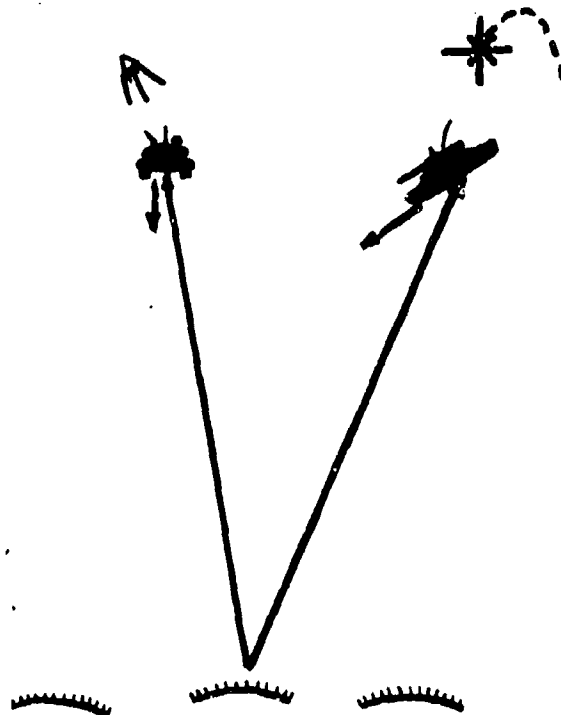
Figure 5 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March 1976.

TRAINING SITE NO. 5. GRENADE LAUNCHER OPERATORS - 135 MINUTES (3x45)

PURPOSE:

1. TRAINING FOR FIRING AT MOVING TARGETS
2. ACCOMPLISHMENT OF NORMS NO. 5*
3. DETERMINATION OF DISTANCES TO VARIOUS TARGETS



DIRECTOR DEPUTY COMMANDER OF FIRST PLATOON

*NORM NOT GIVEN

Figure 6 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March 1976.

TRAINING SITE NO. 6. MACHINE GUN SQUAD - 135 MINUTES (3x45)

PURPOSE:

1. TRAINING FOR FIRING AT BOBBING AND MOVING TARGETS
2. ACCOMPLISHMENT OF NORM NO. 5 * METHODS OF HAND GRENADES LAUNCHING.
3. DETERMINATION OF DISTANCES TO VARIOUS TARGETS

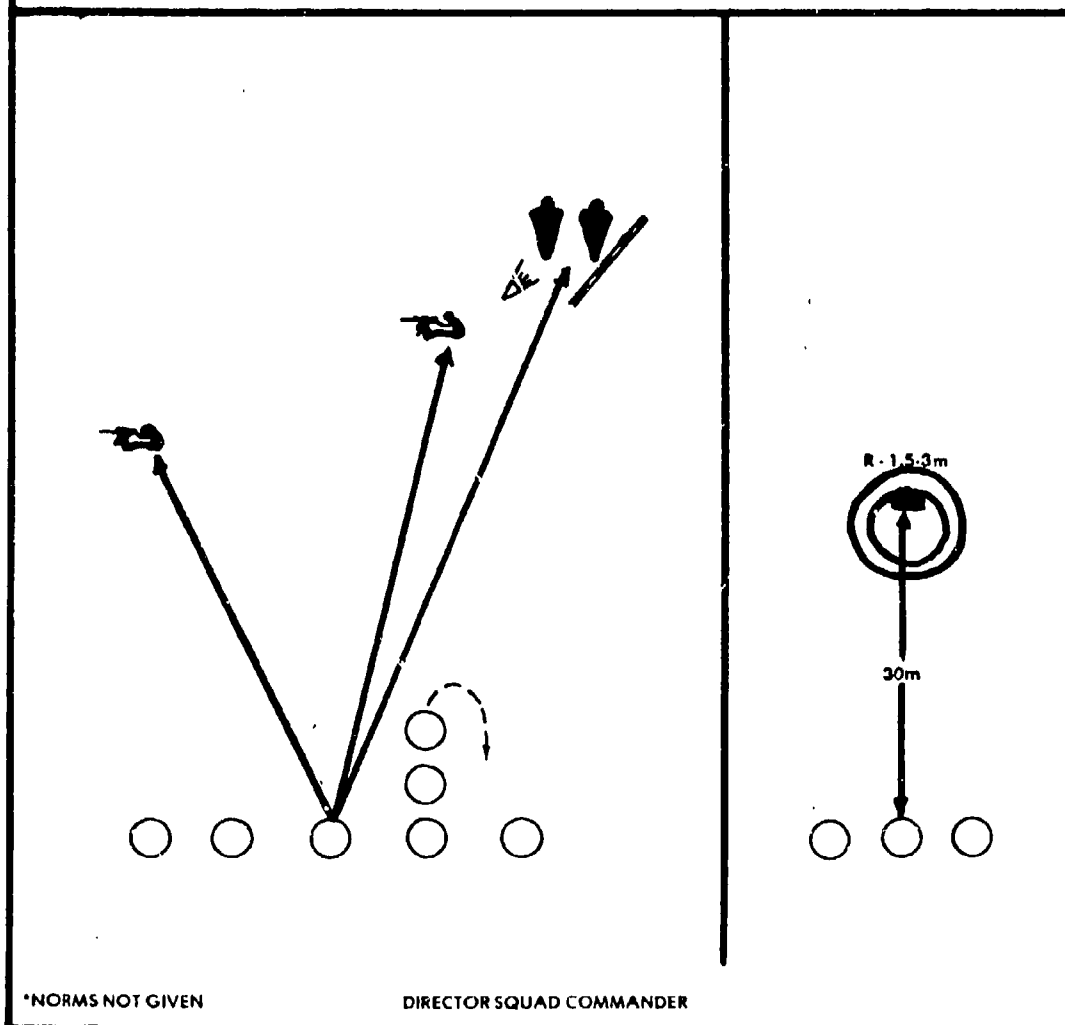


Figure 7 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations, March 1976.

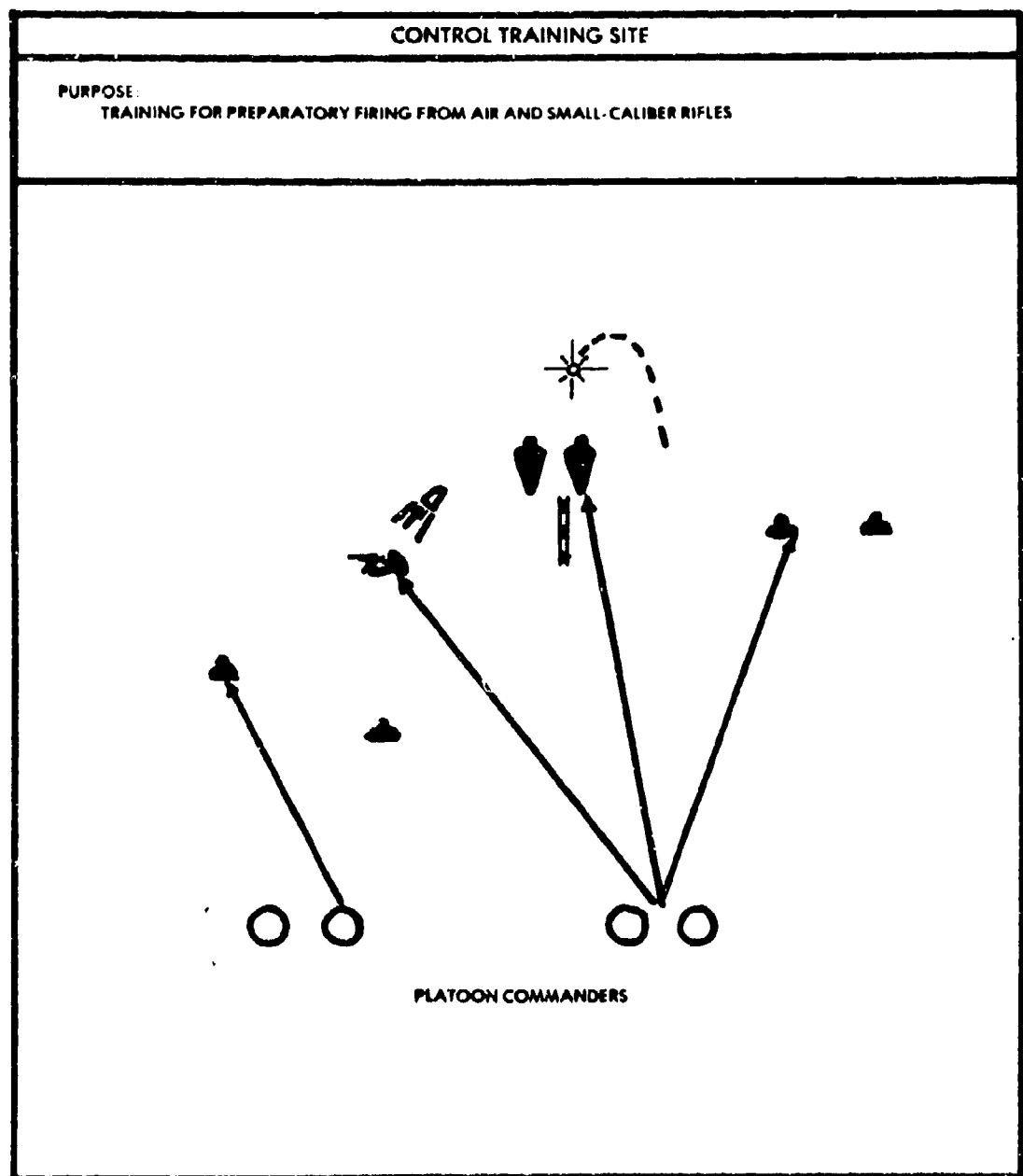


Figure 8 Firing Range

DDI-1100-128-76, Soviet Ground Forces, Night Operations,
March 1976.

SOVIET MILITARY SYMBOLS*

Tanks in the attack		Division or brigade boundary	
Motorized rifle unit retreating		Regimental or separate battalion boundary	
Motorized rifle unit reinforced by tanks		Illumination reference point	
Defense line		Illumination by mortar	
Motorized rifle company in the attack		Illumination by shell	
Tank in firing position		Illumination by flare	
Antitank missile in firing position		Observation post	
Motorized rifle battalion in the attack		APC	
Main fire direction		APC alternate position	
Alternate fire direction		Tank	
Antitank gun battery in firing position		Tank alternate position	
Howitzer battery in firing position		Company commander's command post	
Mortar battery in firing position		Fortified building	
82-mm mortar		Antipersonnel minefield	
120-mm mortar			
Heavy machine gun			
Antitank rocket launcher (RPG)			
Light machine gun			
Recoilless gun			
Battalion commander			
Area of fire concentration (each fire concentration is numbered)			
Nuclear strike			

Figure 9 Soviet Military Symbols.

*AP-220-3-18-70-INT, Soviet Armed Forces Military Symbols, October 1970.

CHAPTER IV

NIGHT OPERATIONS

Soviet writings reflect that night operations are considered to be part of an overall tactical scheme and, as such, are seldom, if ever, planned as solitary actions. The mission of a particular unit, as well as subsequent missions, dictates when and where night operations will be conducted. Soviet writings stress that no pattern should be established for timing night offensive operations.¹ It does appear, however, that night attacks launched after sunset are preferred to predawn attacks because preparation, reconnaissance and coordination measures can be conducted in the late afternoon hours rather than under conditions of darkness.

Preparation is the common link for all Soviet night operations, whether they be armor, motorized infantry or combined arms. The extensive efforts put forth by commanders in getting ready for night operations is yet another measure of the Soviets' intentions regarding the use of night warfare in any future conflict. Commanders at all levels work out detailed plans of attack to include night march formations, maneuver schemes, security measures, phase and coordination lines and recognition means. This chapter examines the night march, a formation common to all Soviet operations, and

¹CPT Eugene D. Betit, Soviet Tactical Doctrine for Night Combat, Military Review, August 1975, P. 22.

details how various combat and combat support units function during night offensive and defensive operations. Included are examples of night attacks involving motorized rifle and armor battalions and companies and the artillery, engineer and logistics support provided for each.

THE NIGHT MARCH. The night march is an essential element of night combat operations since darkness provides the concealment necessary for units moving into attacking or defending positions. Soviet military theorists maintain that night rates of movement on well-lit nights should equal or exceed similar daytime operations.² Under conditions of extreme darkness, the rates may drop to less than half the daytime rate.

Soviet combat forces employ a column formation for night marches. The column is organized to provide for the rapid movement and security of the column and to avoid the need to re-form in the event of a night meeting engagement with the enemy. In the case of regimental size marches, artillery, tanks and engineers are placed at the head of the column along with local inhabitants or other personnel familiar with the area to be traversed.³ Figures 10 and 11 depict battalion and regimental advanced party configurations.

On the march, the commander is at the head of the main column. When the battalion moves as part of a regimental

²Betit, P. 22.

³DDI-1100-128-76, Soviet Ground Forces, Night Operations, Defense Intelligence Agency, 1 March 1976, P. IV-1.

column, the battalion commanders and his staff are always located at the head of the battalion column.⁴ The operational order issued by the senior commander includes the following:

1. Information on the enemy and possible contact points.
2. Missions of subunits and their routes.
3. Information on adjacent units and units or recon elements operating in front of the column.
4. Composition and task of the security forces, route and time of passing departure and control points.
5. Formation of the column, speed of movement, rest halts, action to be taken upon contact with the enemy, and location of the commander and his deputy.⁵

The progress of the column depends on its composition. A column of wheeled vehicles alone normally travels at 25 to 30 kilometers per hour while a tank or mixed column can maintain a rate of 15 to 20 kilometers per hour.⁶ Soviet theorists recommend rest halts of 20 or 30 minutes duration every two or three hours. During these stops, the column deploys two to four kilometers off the road and parallel to it. During these rest stops the use of light and other coordination measures are extremely restricted. As with all Soviet operations, the use of radio communications between units is limited to short transmissions between authorized personnel. The Soviets prefer to communicate and coordinate actions through the use of messengers, often on motorcycles.⁷

During the march, security units are located closer to the main body than during the day. Flank security would maintain a distance of not more than five kilometers, while

⁵DDI-1100-128-76, P. IV-1.

⁶Ibid.

⁷Ibid, P. IV-5.

front and rear security elements would keep a three to five kilometer distance as opposed to eight to ten kilometers for flank security and 10 to 12 kilometers for front and rear security elements. Reconnaissance elements would scout at a distance of one to three kilometers in front of the security element. Engineer elements reconnoiter roads, rest stop areas and lines of deployment and overcome obstacles or locate routes around them.

The meeting engagement, the Soviets' most favored offensive operation during daylight, is similarly anticipated at night. Soviet commanders believe their superior preparation and discipline of units will favor their exploitation of any night meeting. In such an encounter, subunits of the main force deploy simultaneously from the line of march within the operational zone and execute turning or enveloping movements.⁸

The use of the night march by the Soviets is not limited to the offensive but is considered a primary means of resupply, reinforcement and withdrawal from contact. The composition of a night march column is dictated by the purpose for the march. For example, resupply missions are likely to have less rear security forces or reconnaissance elements.⁹

OFFENSIVE OPERATIONS. The night offensive, as employed by the Soviets, can be used to accomplish different objectives. A night attack may be the continuation of a daytime combat operation or it may be initiated as a separate action to achieve

⁸DDI-1100-128-76, P. IV-6.

⁹LTC Z. Shutov, Pursuit, Soviet Military Review, March 1975.

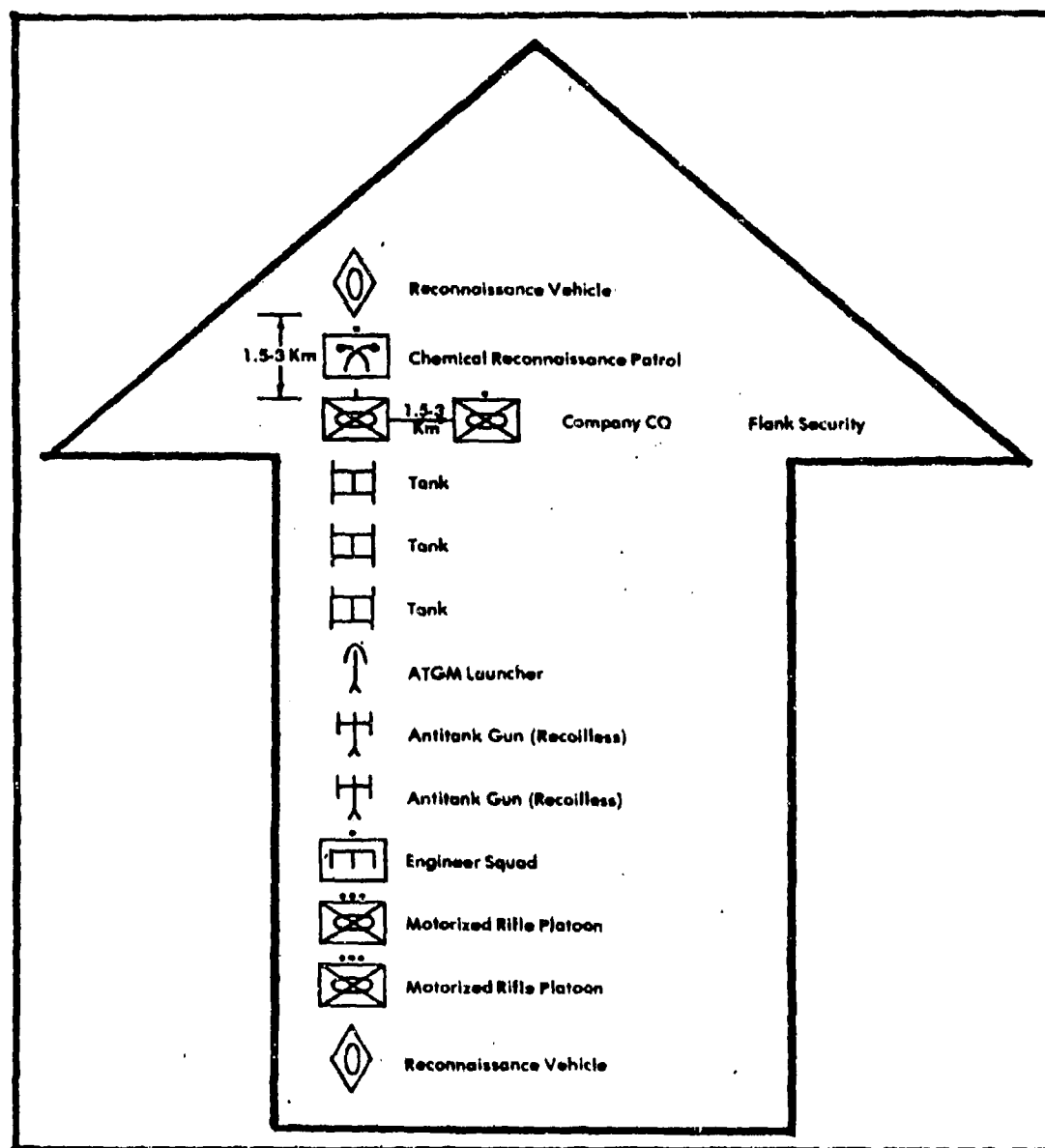


Figure 10 Motorized rifle company (reinforced) as battalion advance party. A type approach formation and column organization.

DDI-1100-128-76, Soviet Ground Forces, Night Operations, March 1976.

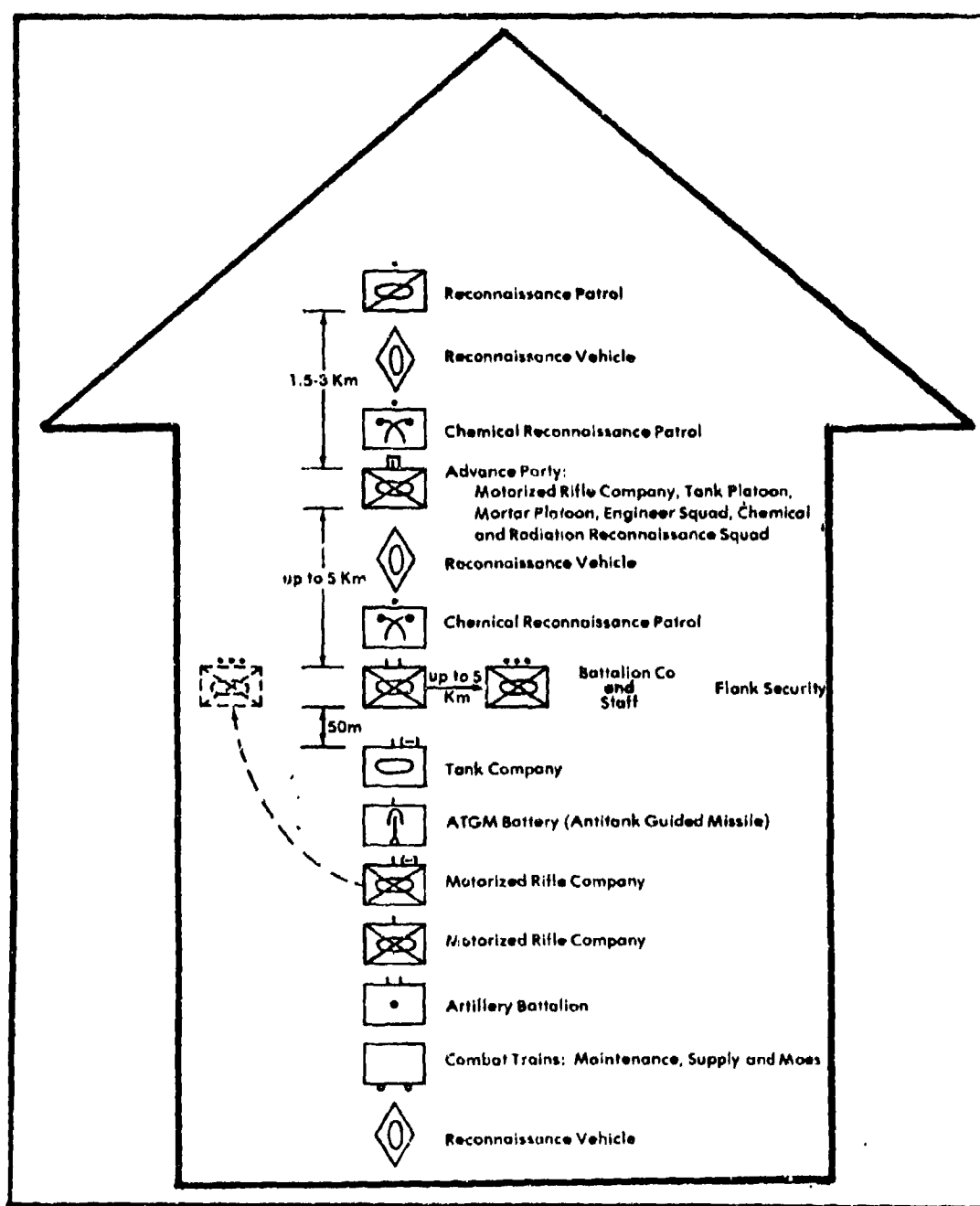


Figure 11 Motorized rifle battalion (reinforced) as regimental advance guard. Approach formation and column organization.

DDI-1100-128-76, Soviet Ground Forces, Night Operations, March 1976.

a limited objective, such as the breaching of enemy defenses. As the continuation of a daylight combat action, it is important for the Soviets to convert to night operations without a break in the action. This relentless pursuit or exploitation, the result of much planning and extensive training, is basic to Soviet operational art. As a separate or initial offensive action, the night offensive is used to achieve surprise or shock an enemy. The Soviets consider the psychological shock of a night attack to be as significant as the surprise achieved.

The principal elements of a Soviet night attack are always present, regardless whether the attack is to be conducted by armor or infantry alone, or by a combined force. These elements include detailed planning, extensive reconnaissance and complete control by the command element. While the details of each of these elements might vary with each situation, their presence is considered a must by Soviet theorists.

MOTORIZED RIFLE NIGHT OFFENSIVE OPERATIONS. The most common configuration for motorized rifle units attacking at night is the battalion-sized attack, usually supported by a battalion of artillery and a company of tanks. The primary mission for an attack of this size would be to penetrate enemy defenses as rapidly as possible and to create confusion for exploitation by subsequent larger unit attacks. The motorized rifle battalion would be responsible for conducting its own reconnaissance and preparing a detailed plan of

attack.¹⁰ The battalion commander would normally conduct a visual reconnaissance of enemy-held territory, provided observation vantage points are available. Following this, the commander would provide subordinate commanders with a detailed description of the unit's area of responsibility, azimuths for each subunit's approach and final assault and definitive boundaries to be observed. Subordinate commanders would then inspect their equipment and night vision devices and receive issue of flares, illumination and tracer rounds.¹¹

The battalion commander's attack plans cover a wide range of activities, many of which are unique to night operations. Each subordinate unit will be provided plans for reconnaissance, air defense measures, employment of reserves and definitive recognition and communication plans. It is not unusual for the battalion to attach artillery batteries to motorized rifle companies for direct support during an attack. Since most attacks involve a final assault on foot, detailed plans must be made and coordinated for dismount locations and arrival times.

Prior to departing the assembly area, personnel will apply white or light colored armbands so that recognition and coordination can be effected in route to the disembarking areas. Tanks and APCs are marked with white or luminescent panels, each unique to the subunit.¹² The route to the line

¹⁰Betit, P. 23.

¹¹Ibid.

¹²Ibid.

of attack is designated by markers which are 80 to 100 centimeters high, and from that line forward the direction of attack will be marked with distinctive markers for each company or platoon.¹³

During the tactical march to the line of departure, drivers are required to use night vision devices to ensure they are operable. Radio silence is maintained, with all radio sets placed in the receiving mode in order to monitor any emergency instructions from the command element.¹⁴ Once the line of departure has been reached, the infantrymen may disembark and proceed on foot or ride on the rear of accompanying tanks.

The battalion attacks with all three of its companies on line, with supporting armor, engineer and CBR units attached to each company. The battalion reserve is usually held for employment against the flanks of any enemy counter-attack, allowing the first echelon units to continue their pursuit unabated. This reserve is normally no more than a reinforced platoon.¹⁵ Occasionally, reserve forces will be used to exploit a perceived weakness or enemy flank in order to achieve rapid, deep penetration of their defenses.

The motorized rifle company is normally the smallest Soviet unit to conduct an independent night attack. When an independent attack by a company is required, the unit is

¹³DDI-1100-128-76, P. V-3.

¹⁴LTC B. Nazarenko, Battalion Night Attack, Military Herald, January 1972, P. 11.

¹⁵Betit, P. 24.

normally reinforced with armor, artillery, engineers and chemical units. The preparation for the company attack is much the same as the battalion attack with the exception that all details for the attack are memorized by the platoon leaders and the attack may be carried out without additional directions or coordination.¹⁶

The company commander formulates a night vision device and illumination plan, including the designation of illumination teams. Illumination means available to the company include rockets, signal flares and searchlights. Other factors considered essential in the company plan are the designation of azimuth takers and lead and supporting platoon formations.¹⁷

Following a visual reconnaissance by the company commander, the operational order is provided to each platoon leader and is committed to memory by all. This order would contain, as a minimum, the order of movement to the assault position, the location for dismount of APCs, the sequence of platoon movements along passages in mine fields (if appropriate), order of cover by fire, reference points, places for light alignment, directional markers and routes for bypassing obstacles.¹⁸

Once the company arrives at the platoon dismount points, the attack usually begins with each platoon having a different approach toward a single objective or position to be overrun.

¹⁶DDI-1100-77-76, The Soviet Motorized Rifle Company, Defense Intelligence Agency, October 1976, P. 118.

¹⁷LTC A. Averyanov, Night Attack, Soviet Military Review, November 1975, P. 26.

¹⁸DDI-1100-77-76, P. 119.

If enemy resistance is light, the company may attack mounted or on the back of attached tanks. The company normally attacks on line with no reserve.¹⁹ Variations of this formation are possible and one Soviet writer described a situation where the tanks maintained a static "overwatch", destroying positions and sources of illumination. The infantry had dismounted on the reverse slope of a hill and attacked behind a lead tank. Artillery was used to provide illumination and as direct support or direct fire when the attack began to bog down. Emphasis was placed on small subordinate units (squads, sections) infiltrating through gaps in the enemy defenses. A counter-attack was repulsed with the assistance of the artillery.²⁰ The article which described the attack emphasized that night vision devices were used when illumination was not available. This represents a continued adherence to the historical tactic of using illumination to both reveal the enemy and guide attackers over and around obstacles. The Soviets apparently do not view illumination as taking away any of the psychological or surprise advantage achieved by night attack.

While most Soviet writings regarding night operations of motorized rifle units identify operations conducted as independent actions, much attention is given to the conversion from day to night operations and the continuation of a daylight attack after dark.

¹⁹DDI-1100-77-76, P. 119.

²⁰Ayeryanov, P. 27. (Note: The referenced attack was a training exercise.)

ARMOR NIGHT OFFENSIVE OPERATIONS. Like the motorized rifle battalion, the tank battalion represents the most common formation for night armor attacks. Unlike motorized infantry, however, tank attacks are limited to acceptable terrain and are restricted by requirements for mounted attacks. Armor does provide unique advantages for night use, including night sighting devices and navigational equipment and built-in illumination sources.

Soviet armor rarely performs night attacks without accompanying infantry, whether dismounted or in APCs. On moonlit nights, tanks may assault ahead of infantry, taking the lead and providing illumination support as well as firepower. Under conditions of less visibility, tanks may position themselves on line with infantry or serve in an overwatch position. Under some conditions, engineers may be employed to lead armor elements through minefields or around obstacles, then accompany the tanks into the attack, fighting as infantry.²¹

Preparation for a night attack by a tank unit is similar to that conducted by a motorized rifle unit. Often the direction of attack, route of pre-attack march, and line of departure are dictated by navigational restrictions, thus relieving the commander of some planning requirements. Still, the reconnaissance, illumination plans, directional markers, and coordination instructions must be accomplished in detail.

A tank battalion commander plans night attacks and

²¹Betit, P. 24.

conducts reconnaissance with his company commanders during daylight, if possible. If time permits, a reconnaissance is also conducted during darkness so that the difficulties of control, coordination, and illumination can be resolved.²² Normally, the course or route of march for the attack is determined by the tanks' directional gyroscopic equipment, which, as outlined in Chapter III, is as reliable as any known to exist today. While navigation and directioning are problems for tank crews at night, the most significant problem is one of acquiring and ranging targets. Changing from day to night sights and functioning in a darkened turret creates unique problems for the gunner and loader.

Following equipment and night vision device inspections and issuance of additional fuel and special illumination and tracer ammunition, the tank units maneuver into a march configuration for travel to the line of attack. Each tank will be equipped with luminescent panels or red lights on the rear of the turret for recognition. Covered routes to the assault positions are used when available in order to counter the effects of enemy night detection devices. If no covered routes are available, tanks move to their line of deployment under the cover of artillery. Usually a short, intense artillery preparation is fired immediately prior to launching the attack.²³ Figure 12 represents the control

²²DDI-1120-129-76, Soviet Tank Company Tactics, Defense Intelligence Agency, May 1976, P. 40.

²³Ibid, P. 40.

measures taken by a tank unit during the night march and assault of enemy positions.

On order, the tank companies lead the assault, attacking along predesignated routes. Since navigational equipment is often required to maintain the specific assault azimuth, any redirection to avoid obstacles requires reorientation and a return to the original azimuth. Two techniques are employed for ranging enemy weapons and positions using active infrared (IR) devices. Two tanks may obtain azimuths to the target and, using triangulation, compute the range.²⁴ This technique requires the tanks to communicate with each other, normally by radio, thus increasing their vulnerability to electronic warfare measures. The second measure calls for one tank to adjust the fire of another by directing their fire.²⁵ Here again, verbal communication is required.

During the assault, Soviet tank crews fire either while on the move or from a short halt. The halt-fire situation makes the tank vulnerable since muzzle flash provides excellent illumination for enemy gunners. Firing on the move is employed when the night sight or coaxial machine-gun is used. When the main gun is fired as an indirect fire weapon, the halt-fire situation is used.²⁶

As a rule, the Soviet tanks attack on a straight line since they are following a predetermined azimuth. One Soviet

²⁴Betit, P. 26.

²⁵Ibid.

²⁶Ibid.

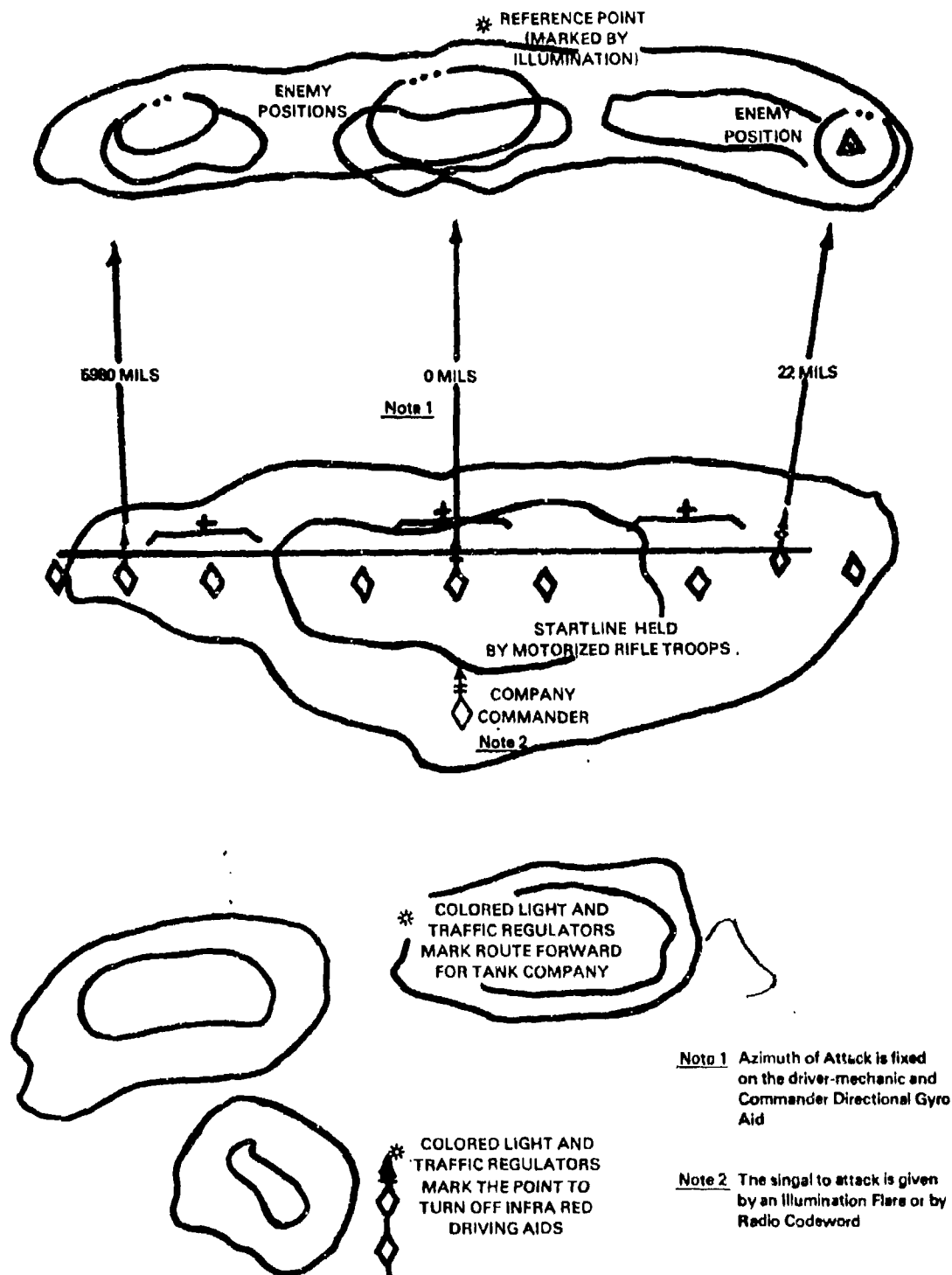


Figure 12 Control Measures for Night Attack

DDI-1120-129-76, Soviet Tank Company Tactics, May 1976.

writer describes an account where Soviet tank crews maneuvered to the flank and rear of enemy positions and approached with their lights on. The enemy mistook the Soviet tanks for their own reinforcements and allowed the armor to close uncontested.²⁷ In another case, the Soviet tank commander had his crews turn on their night driving lights and closed ranks with a withdrawing enemy who mistook them for their own rear security forces.²⁸ It should be considered then that, while the rule is generally inflexible regarding night armor attacks, the Soviets apparently will adapt to the situation.

Soviet tactics are likewise not limited to head-on assaults. Another common practice is to advance with tanks along a route parallel to a withdrawing enemy that has been routed by motorized rifle units. This allows the tanks to attack the flanks of the retreating enemy at will and to exploit gaps in the enemy's defenses.²⁹

If a tank force commander encounters a superior enemy force during a night attack, he may order temporary positions to be selected and call for artillery fire. The principal rule, however, is the maintenance of the tempo established by the surprise night attack, with operations continuing through the following day.

WATER OBSTACLES. The river crossing, one of the most difficult military maneuvers under the best conditions, is

²⁷LTC V. Kokhanov, Pursuit, Soviet Military Review, June 1975. (Note: the author was apparently providing accounts of an actual Soviet operation during WW II)

²⁸Ibid.

²⁹Ibid.

considered to be a significant tactical operation by Soviet armor units at night. Several World War II battles were initiated by the Soviets following a night river crossing by armor units. Today, Soviet T-62 and T-72 tanks are equipped with snorkeling equipment which allows for night or day crossings. Figure 13 depicts the Soviet approach to the river crossing using tank forces. Tank companies in the reconnaissance role are reinforced by engineers, divers, and chemical specialists to survey river banks to find suitable crossing sites.³⁰ Reconnaissance elements also seek to identify existing bridges or fording sites as well as enemy positions on both banks.³¹

Tank companies employed as security detachments seize crossing areas identified by the reconnaissance elements and attempt to use shallow fords to establish a bridgehead on the far bank. The near banks of crossing sites are held until the arrival of the main body if an enemy is present and prevents an immediate crossing. A company in the main body crosses the obstacle using either fords or established crossing sites under the cover of the security detachments. After crossing, it moves along a predesignated route to its objective. If a battalion has no security elements, a company will cross after intensive concentrations of artillery and tank fire.³² As seen in Figure 13, the objectives for the main body attack are

³⁰Most underwater survey work is conducted at night, even for daylight operations.

³¹DDI-1120-129-76, P. 45.

³²Ibid.

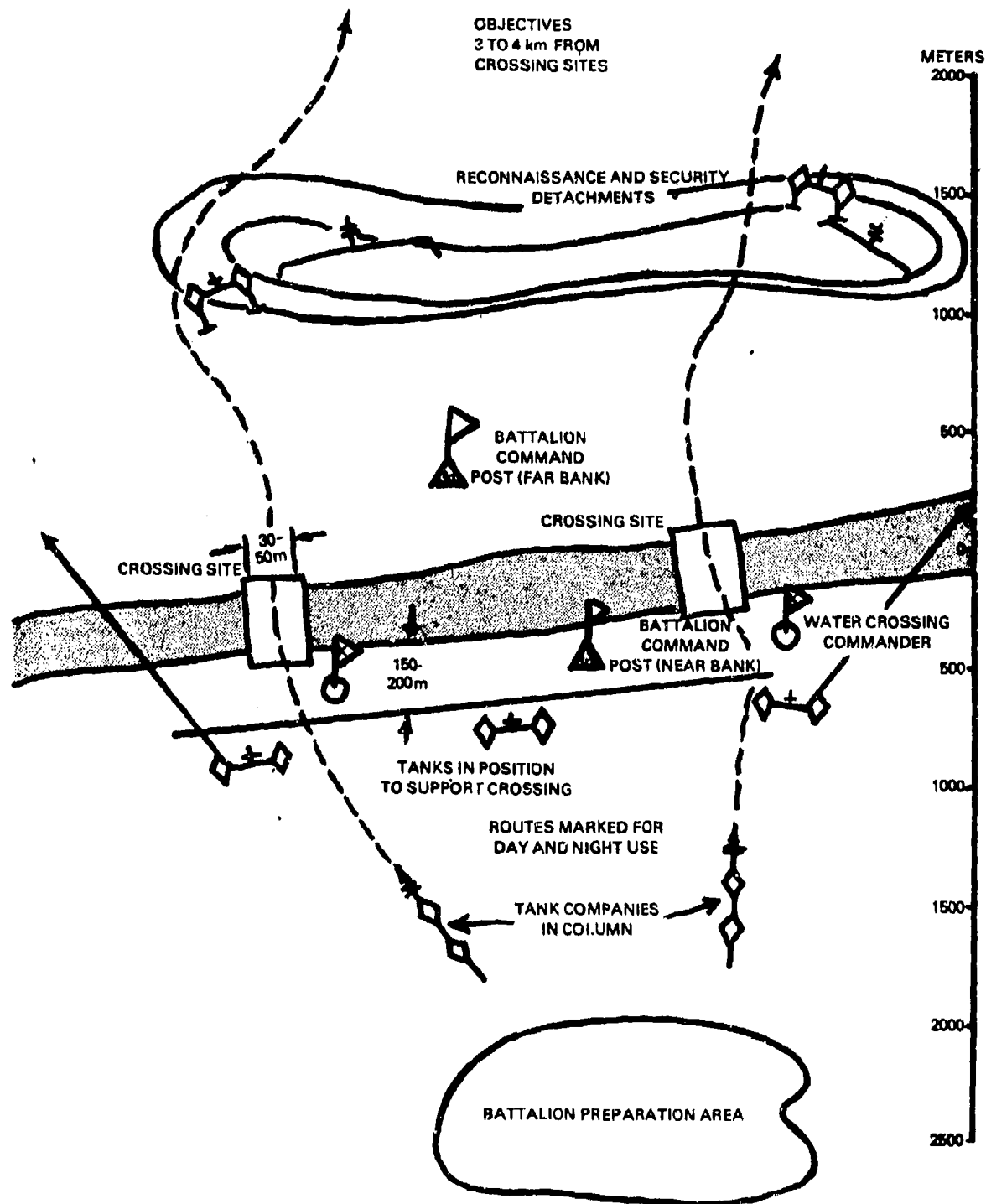


Figure 13 Crossing Control Organization.

DDI-1120-129-76, Soviet Tank Company Tactics, May 1976.

usually limited to three or four kilometers distance from the crossing. Any greater distance, whether a daylight or night objective, would place the attack in jeopardy from flanking movements.

COMBINED ARMS NIGHT OFFENSIVE OPERATIONS. The employment of a combined arms force in night operations represents the most common Soviet tactic and presents the most formidable attack force. Multiple battalion attacks, using tank and motorized rifle task forces, allow the Soviets to make use of mounted or dismounted infantry and armor firepower to assault formidable enemy positions and built-up areas. With armor in the lead, mounted infantry can be used when enemy resistance stiffens, dismounting and engaging the enemy on foot.

The distance between tanks and motorized rifle units depends on the degree of illumination, trafficability of the area, and the characteristics of the enemy's defense. On a brightly lit night or during intense illumination, tanks may be located 100 to 150 meters from the motorized units. Such a distance provides close support by tanks and uninterrupted coordination between armor and infantry. Distances will be shortened if the area of operations is not well illuminated.³³ The width of the front will also depend on local conditions. A battalion front of 1.5 to 2 kilometers, the normal daylight formation, may be decreased to one kilometer, depending on illumination and terrain. Company fronts, for both tanks and motorized rifle units could decrease from the normal 800 meters

³³DDI-1100-128-76, P. V-5.

to 400 or 500 meters in darkness conditions. When the infantry attacks on foot, the squad front is approximately 60 meters, with 40 meters between squads, thus giving a dismounted platoon a 400 meter front.³⁴

ARTILLERY IN THE NIGHT ASSAULT. Soviet doctrine calls for extensive use of artillery preparation fires as preludes to all offensive operations. It is during night operations, however, when Soviet artillery is fully utilized in a variety of rules designed to support the attack. However, in some Soviet accounts, the artillery preparation is not used because of the loss of surprise. This practice does not appear to be the rule, but, silent night attacks were launched during World War II by the Soviets and they cannot be discounted in future situations.

In addition to serving as the principal fire support weapon for motorized rifle and armor attacks, the artillery can be employed to provide illumination, mark targets, lay smoke barrages, or to fire marking rounds for other weapon systems. The artillery battalion attached to a motorized rifle battalion for a night offensive may be directed to fire incendiary rounds upon preselected enemy targets, thus facilitating the attacking forces' navigation.³⁵

The Soviets' use of illumination during night attacks is extensive. Artillery units are normally called on to fire illuminating rounds during key stages of combat or during the

³⁴DDI-1100-128-76, P. V-5.

³⁵Betit, P. 26.

entire operation. Continuous illumination would occur, as a rule, only when the Soviets are engaged in fighting for key objectives or to repulse enemy counterattacks.³⁶

Because of the problems inherent in moving towed or self-propelled artillery pieces and ammunition carriers cross-country at night, the Soviets tend to employ artillery command posts and firing positions close to roads. Other problems encountered at night are difficulty in selecting and surveying firing positions, target reconnaissance, fire adjusting and redeployment to new firing positions. To overcome some of these, Soviet doctrine calls for artillery units to be emplaced during daylight and firing data prepared in advance.³⁷

During night operations, control of artillery fire is decentralized, with the artillery commander being collocated with the commander of the supported unit. In some cases, "accompanying artillery" is attached to frontline motorized rifle companies to ensure the repulse of counterattacks and the destruction of enemy tanks and strongpoints.³⁸ This direct fire role greatly increases the firepower of the motorized rifle company since, during night operations, each company is likely to receive its own artillery battery from the artillery battalion attached to the motorized battalion.

Soviet artillery employs a variety of target acquisition measures in support of night operations. Optics,

³⁶Betit, P. 26.

³⁷Ibid.

³⁸Ibid.

sound, radar, topographic aids, meteorological devices, and ground surveillance all play a role in developing a target acquisition picture. Photographs of the battlefield, taken by artillery units during night firings, are compared with photos taken of the same area during daylight and often reveal enemy locations. Artillery illumination allows for optical reconnaissance and during periods of no illumination, infrared devices are used. Sound ranging is used extensively by the Soviets, who believe it is twice as effective at night due to sound propagation characteristics.³⁹ Data charts are prepared in advance for various distances based on three variations of air temperature.⁴⁰

Soviet artillery radar is used to detect moving targets or large objects which extend above the terrain surface, and for counterbattery fire. An additional duty in nuclear situations would be to determine ground zero on nuclear bursts.⁴¹

Antiaircraft artillery positions are equally difficult to establish at night. Unless prepositioned during daylight, they will generally be located along roads.⁴² Missions for antiaircraft artillery at night include the destruction of enemy illumination means which illuminate Soviet troop

³⁹Betit, P. 27.

⁴⁰LTC M. Mozharov and MAJ B. Krupenin, Combined Training with a Battery at Night, Military Herald, February 1971, P. 53.

⁴¹Betit, P. 27.

⁴²Ibid.

⁴³Ibid.

concentrations, and the normal protection of troops from enemy air attacks.⁴³

In general, Soviet artillery usage during night operations mirrors the daylight use. Notable exceptions, however, are the night attack without artillery preparation fires, and the reluctance to redeploy artillery cross-country at night.

COMBAT SUPPORT AND SERVICE SUPPORT DURING NIGHT OPERATIONS. Most combat support units, such as engineers and chemical units, are attached directly to motorized rifle companies for night operations. This decentralization of control allows for maximum flexibility of support.

Engineer missions during night operations include reconnaissance (sappers), clearing of minefields, removal of obstacles, assisting in water crossings, emplacement of minefields, and demolition of prominent terrain features which may assist enemy orientation.⁴⁴ Although some engineer units do possess night vision devices, it is still probably necessary to illuminate the battlefield in order for them to accomplish some of the above mentioned missions.

Prior to a night assault, engineer observation and listening posts, manned by sapper linguists, will be established forward of each motorized rifle battalion. These linguists will attempt to gain combat intelligence on the opposing forces.⁴⁵ During the artillery preparation which precedes the assault, sappers will clear and mark paths

⁴³Betit, P. 27.

⁴⁴Ibid.

⁴⁵Ibid.

through minefields. This is usually accomplished using demolitions or roller-equipped tanks. The cleared lanes are usually six to eight meters wide.⁴⁶

Chemical elements may be attached to each rifle company or platoon. Although the Soviets prefer to decontaminate equipment in special processing points, these elements can provide a limited decontamination capability. The "special processing points" are normally located near inhabited areas since a certain amount of illumination is unavoidable to complete the procedure.⁴⁷ In all cases, these points are near frontline troops and close to roads.

The Soviets devote considerable attention to logistics and the planning for supply and resupply of forces conducting night operations. Soviet writings reveal that requirements for night operations increase by 15 to 30 percent over daytime supply rates. Artillery units supporting night operations are normally supplied one or two days in advance. Motorized rifle units are provided more ammunition than normal and each company may have one APC designated to carry the additional load.⁴⁸

Medical evacuation is extremely difficult at night, however, it is the system preferred by the Soviets and their doctrine calls for the evacuation of wounded troops during the cover of darkness. Heavy or mass casualties could over-

⁴⁶Betit, P. 27.

⁴⁷Ibid, P. 28.

⁴⁸Ibid, P. 29.

whelm the Soviet medical system which continues to rely on truck ambulances, trained dogs used to locate wounded, and limited air ambulance capabilities.⁴⁹

Command and control of night operations is made more difficult by the Soviet doctrine of radio silence or limited radio use. Whenever possible, Soviet commanders will locate themselves as close as possible to the center front of their forces in order to maintain an awareness of the tactical situation. The Soviets view planning and adherence to orders as being a beneficial tradeoff for lack of communications and the threat of electronic warfare measures against them. Still, this does not deter individual initiative on the part of Soviet commanders at night, and unique measures have been taken to insure control and direction. In one such case, forward tanks and APCs were directed to switch on their tail-lights momentarily so that the commander could get a battle-field frontline trace.⁵⁰

Whenever possible, Soviet commanders prefer to lay communications wire between units instead of relying on radio communications. This task becomes extremely difficult at night, and the time required to lay cable is roughly doubled under darkness conditions.⁵¹

The Soviets have a great appreciation for the strain and tiring effects unique to night operations. Because of

⁴⁹Betit, P. 30.

⁵⁰Ibid.

⁵¹Ibid.

this, operational plans include the provision for replacement units from reserves and second echelons to continue the assault at dawn or whenever the situation dictates.⁵² This doctrine of continuous, relentless attack makes the night attack all the more important in Soviet planning since it denies the enemy the respite following daylight attacks and can also serve as a hindrance in preparation for subsequent daylight operations.

DEFENSIVE OPERATIONS. Although almost all of the Soviet writings concerning night operations address only the offense, the Soviets do have an appreciation and therefore a tactic for night defensive operations. Historically, as was explained in Chapter II, the Soviets have used the night defense to resupply, reinforce and conduct spoiling counter-attacks. The night defense allows a smaller force, familiar with the terrain and concealed by darkness, to engage and disrupt an enemy's operations.

As stated earlier, command and control of night operations is extremely difficult. When in a defensive position, the Soviets make use of pre-positioned units, wire communications, and more centralized control to try and eliminate some of the command and control problems. The use of illumination is considered as important in the defense as in the offense, and the Soviets employ illumination on the forward edge of the battle area at irregular intervals to detect

⁵²Betit, P. 30.

⁵³Ibid.

enemy movements.⁵³

During night defensive situations, reserve and second echelon units will be positioned close to the front line so that they can rapidly deploy to positions or cover gaps in defensive lines.⁵⁴

The motorized rifle unit, reinforced with tanks, represents the most common Soviet night defensive formation. Defensive positions are prepared during daylight hours, with each machinegunner, grenadier, and rifleman preparing his own fields of fire. Tanks are normally placed in hull defilade, with predesignated relocation points and withdrawal routes prepared.⁵⁵

The Soviets make extensive use of patrolling and listening and observation posts while in defensive posture. Artillery units plan fires on likely avenues of advance and are equipped with extra illumination rounds. Engineers are used to provide camouflage, construct fortifications, and lay minefields.⁵⁶ In all, the Soviet night defense is as well planned and rehearsed as the night offensive. Perhaps the major difference between night offensive and defensive formations is the use of a rather heavy reserve, perhaps a company reinforced in each battalion, to launch counterattacks from the defensive position and steal the initiative from the enemy. The Soviets do not like the defense and will

⁵³Betit, P. 30.

⁵⁴Ibid.

⁵⁵Ibid, P. 32.

⁵⁶Ibid.

make every opportunity to gain the offensive, even at night.

CHAPTER V

CONCLUSIONS

The objective of this thesis was to document historical and contemporary facts on Soviet night operations. From this documentation several conclusions can be drawn about the emphasis the Soviets place on night operations, their ability to conduct them, and the likelihood they will employ night operations in any future conflict.

I have chosen to present these conclusions in the form of answers to hypothetical Essential Elements of Information (EEI) as they might be posed to an intelligence officer by his commander. The answers to these questions, coupled with supporting statements, constitute the essence of the findings in this thesis.

EEI:

1. Will the Soviets conduct night operations in any future conflict?
2. Where will they conduct night operations?
3. When will they conduct night operations?
4. In what strength will they conduct night operations?

WILL THE SOVIETS CONDUCT NIGHT OPERATIONS? Yes.

This response is based on the analysis of four factors: the Soviets' history of night operations, their current tactical doctrine, their capabilities, and their intentions. Historically, as documented in Chapter II, the Soviets used night operations extensively in World War II. The tactics of night re-supply and reinforcement were perfected by the Soviets while on the defensive at Stalingrad. Once on the offensive, the Soviets used night attacks to achieve surprise, as at the Battle of Kiev, and to shock the enemy, as at the Battle of Berlin. They employed illumination to guide their forces and to reveal the enemy, and they revealed new weapons at night in order to guard their secrecy.

Current doctrine reveals a continuation of the tactics of surprise and shock. Likewise, the Soviets embrace the offensive assault and relentless pursuit as the very core of their strategy. Current writings reveal that the Soviets adhere to the practice of night re-supply and medical evacuation of wounded. All these factors are evidenced in the vast number of writings devoted to night operations and tactics.

Capability can be addressed in terms of equipments, weapons, and the ability of the soldier to use them. In this respect, the Soviets are indeed capable of conducting night operations. Their night operational equipment, as examined in Chapter III, is highly sophisticated and readily available. The Soviets have devoted considerable amounts of research and

development resources to create usable and reliable navigational aids for their tracked vehicles, weapon sites for individual and crew-served weapons, and light-enhancing equipment for all ground force elements. Their tanks are equipped with illumination ammunition and searchlights, and all command vehicles have topographic navigational gear.

The training programs of the Soviets are perhaps the greatest measure of their night operational capability. The individual Soviet soldier is trained for night combat, as are all units from squad to regimental size. One source estimates that fully 40% of all individual and unit training is devoted to night operations.¹

If we can conclude that the Soviets have a history of night operations, that their current doctrine includes night operational techniques, and that they appear capable of conducting such operations, then we can address their intentions with a degree of assurance. Any army or unit that attempts to conduct combat in any manner other than the way it has trained will most likely be unsuccessful. The Soviets train extensively for night operations, therefore it can be deduced that they plan to fight at night. When this is coupled with the fact that they have spent great quantities of money and time to create state-of-the-art equipments for night combat, the conclusion becomes even clearer. Yes.

¹DDI-1100-128-76, p VIII-1.

WHEN WILL THE SOVIETS CONDUCT NIGHT OPERATIONS?

The "when" in this question does not equate to a particular day, but is associated with the most likely times during a battle or campaign that the Soviets will conduct night operations. An examination of the information presented in Chapter IV reveals that there are perhaps two times that the Soviets favor most: as a continuation of a successful daylight assault, or as a prelude to an intensive daylight attack.

In the case of the first instance, the Soviets will continue a successful daylight attack by inserting new units into the battle that are equipped for night combat, maintaining their momentum without a break in the action. When employing night operations as a prelude to subsequent daylight assaults, the Soviets will plan extensively, and may even rehearse the action several times prior to the attack. The planning involves a reconnaissance of the area to be assaulted. Here, the Soviets favor conducting the reconnaissance during the late afternoon hours and attacking after dusk rather than trying to conduct the recon during darkness and attacking before dawn.

While we can conclude that the Soviets prefer to conduct night operations under certain conditions that they have control of and at certain stages of a battle or campaign, we must also conclude that they will conduct night operations at any time they feel they are needed or will contribute to the overall success of the operation.

WHERE WILL THE SOVIETS CONDUCT NIGHT OPERATIONS?

During World War II, the Soviets conducted major night operations in built up areas such as Stalingrad and Berlin. They attacked across rivers, at Stalingrad and at Kiev, and they assaulted encircled German units on the open Steppes. It could be said that the Soviets used the night attack everywhere it was needed. An examination of current Soviet doctrine reveals some profound information about where the Soviets may conduct night attacks in future conflicts.

As stated in Chapter IV, the Soviets do not consider the crossing of rivers or other water obstacles at night to be of any greater significance than a daylight crossing. Likewise, the breaching of minefields at night is considered a normal tactic. The Soviets feel that they can conduct effective night assaults almost anywhere they can fight during the daytime. Their writings reveal that they prefer to employ smaller sized attacks against weak points in an enemy's defenses, and on occasion, where least expected, such as through a minefield.

Their use of the night march formation and their column composition indicates that they are willing to conduct a meeting engagement at night, as eagerly as they pursue the same tactic during the day. The night attack can be expected to adhere to the Soviet principle of exploitation of success rather than reinforcement of units meeting the stiffest resistance. We can expect the Soviets to attack at night where they anticipate the least force resistance or where

they anticipate achieving the greatest surprise, even if this means crossing a river or breaching a minefield to reach the enemy.

Other factors in the "where" equation relate to the Soviet use of reconnaissance and security at night and the positioning of command elements, reserves, and second echelon forces. As stated in Chapter IV, front and rear security elements for a unit on the move at night will maintain approximately half the daytime distance from the main body of the force. Likewise, flank security and reserve and second echelon forces will be positioned closer to the main body. When resting during night marches, Soviet units can be expected to withdraw to a position one to two kilometers off the march route and parallel to it. The march formation and unit order will remain the same during the rest.

Because of the difficulty of cross-country movement at night, towed and self-propelled artillery units can be expected to remain close to roads, leapfrogging forward as the attack progresses. Command elements will remain close to roads or supply routes so that commanders can deploy quickly to key areas of the attack. Soviet tank forces, especially those armor forces attached to motorized units, can be expected to make more use of the overwatch position during night operations.

In general then, we can anticipate that the Soviets will adhere to certain principles of their operational art which apply to daylight operations: exploitation of success

by reserves and second echelon forces, relentless assault and massing against weak points and attacks in echelon. On the other hand, the Soviets appear to allow more flexibility during night operations and are likely to attempt less conventional formations or less predictable tactics. They may attack where they would not during daytime, such as across obstacles and through minefields.

IN WHAT STRENGTH WILL THE SOVIETS CONDUCT NIGHT OPERATIONS? Soviet writings reveal that the Soviets train for night operations using all sized units from company to combined arms army. During World War II they conducted the night attack against Berlin with an entire Front formation. Conclusions regarding the size of forces most likely to be involved in night operations are drawn based on training accounts and doctrinal procedures.

The smallest unit which might conduct an independent night attack appears to be the motorized rifle or tank company, supported by an attached artillery battery. The most common force conducting independent operations at night is the motorized rifle or tank battalion, supported by a battalion of attached artillery and engineer elements. It appears that the Soviets may use such an attack to support or precede a division-sized operation.

When a motorized rifle battalion attacks at night, the supporting artillery is usually decentralized, with a battery being attached to each motorized company. The battalion will attack with three companies on line, with a reinforced platoon following as the battalion reserve. If

tanks are attached, they may lead the dismounted infantry or take up overwatch positions and serve as a rather static fire support system for APC mounted forces. The normal battalion front will decrease from the daylight attack frontage of one-and-a-half or two kilometers to as narrow as one kilometer if the infantry remains mounted. If the infantry is dismounted, this frontage could widen up to 400 meters for each platoon, giving the unit a much larger front than during daylight operations.

When the tank battalion attacks at night, the commander will normally assign a different avenue of assault for each company, thus having a three-pronged attack. Some units may deploy an overwatch company for fire against anti-tank forces. As with the motorized battalion, the artillery supporting the tank battalion assault will be decentralized for attachment to each assaulting company.

The overriding principle behind the size of the unit the Soviets will use at night is the mission of the parent unit in subsequent operations. Since the night attack is used to enhance or continue other operations, it is the next mission of the unit that will determine the size of the night force and the support given to it.

GENERAL CONCLUSIONS. The Soviets will fight at night. That is the basic conclusion that can be drawn from this research. Other conclusions which have meaning within the scope and limitations of this thesis are as follows: The Soviet soldier and his unit are well trained for night combat.

The Soviets write extensively about how they conduct their night training, and they review lessons learned from actual combat during World War II and from training experiences. The Soviets have expended considerable resources to develop modern, efficient night equipments. Their night sighting devices, radars, and navigational aids are excellent.

The Soviet commander apparently has greater flexibility at night than during daylight operations. He is responsible for his own reconnaissance and planning, and he is allowed to develop his plan given the situation and not a set of rules. Historical accounts reveal that initiative has played a part in Soviet night operations and that this initiative is encouraged. Whether it be a counterattack at night by weary soldiers at Stalingrad or a cat-and-mouse armor ruse, Soviet commanders have shown that they can think for themselves and are allowed to do so. The Soviets, for all their apparent inflexibility, recognize the importance of the physical and psychological advantages of darkness conditions and they are trained to make use of them.

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